Facility Response Plan



Fort Carson, Colorado

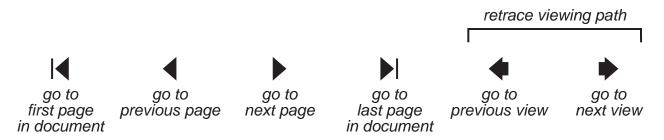
Prepared by



Shaw Environmental, Inc. 11499 Chester Road Cincinnati, OH 45246

Navigation notes:

For easiest navigation, extensive use of "bookmarks" has been made. To view a given Section, simply click on the desired Section heading. A "+" sign indicates collapsed subheadings can be found by clicking on the "+". To re-collapse the heading, click on the "–" sign. Use the *Page Up* and *Page Down* keys to move to adjacent pages. You can also navigate by single-clicking the arrow buttons on the toolbar at the top of the Acrobat Reader window (see the diagrams below for an explanation).



FACILITY RESPONSE PLAN COVER SHEET

GENERAL INFORMATION

Owner/Operator of Facility: U.S. DOD U.S. Army - Fort Carson (DECAM)

Facility Address: 1638 Elwell Street, Building 6236

Fort Carson, Colorado 80913-4356

Facility Telephone Number: (719) 526-1723

Latitude: 038 degrees, 45 min., 45 sec.

Longitude: 104 degrees, 47 min., 45 sec.

Dun and Bradstreet Number: N/A

North American Industrial

Classification System: 92811

Largest Aboveground Oil

Storage Tank Capacity: 584,100 gallons

Maximum Oil Storage Capacity: 40,000 gallons

Number of Aboveground

Storage Tanks: 145

Worst-Case Discharge Amount: 40,000 gallons

Facility Distance to Navigable Water: 3/4 to 1 mile

ΑT	ATTACHMENT C-II. Certification of the A	pplicability of the Substantial Harm Criteria
Fac	Facility Name Fort Carson	
Fac	Facility Address 1638 Elwell Street, Building	6236, Fort Carson, CO 80913-4356
1.	1. Does the facility transfer oil over water to or oil storage capacity greater than or equal to 4	
	Yes Nox_	
2.	2. Does the facility have a total oil storage capa and does the facility lack secondary contains capacity of the largest aboveground oil stora precipitation within any aboveground oil stora	nent that is sufficiently large to contain the ge tank plus sufficient freeboard to allow for
	Yes No <u>x</u>	
3.	3. Does the facility have a total oil storage capa and is the facility located at a distance (as ca Attachment C-III to this Appendix or a comp facility could cause injury to fish and wildlift	lculated using the appropriate formula in parable formula*) such that a discharge from the
	Yes <u>x</u> No	
4.	4. Does the facility have a total oil storage capa and is the facility located at a distance (as ca Attachment C-III to this Appendix or a comp facility would shut down a public intake?**	
	Yes No <u>x</u>	
5.	5. Does the facility have a total oil storage capa	acity greater than or equal to 1 million gallons

and has the facility experienced a reportable oil spill in an amount greater than or equal to

10,000 gallons within the last 5 years?

Yes ____ No <u>x</u>

^{*} If a comparable formula is used, documentation of the reliability and analytical soundness of the comparable formula must be attached to this form.

^{**} For the purposes of 40 CFR part 112, public drinking water intakes are analogous to public water systems as described at 40 CFR 143.2(c).

CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate, and complete.

Signature

LAJIB LINHA

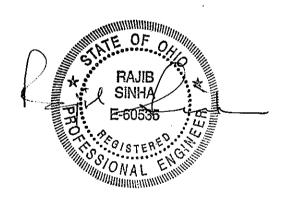
Name (please type or print)

PROFESSIONAL ENGINEER

Title

February 20, 2004

Date





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VIII
999 18th STREET - SUITE 500
DENVER, COLORADO 80202-2466

APR 1 6 2004

CERTIFIED MAIL:

Nelson O. Kelm Department of the Army Attn: Noise Program Manager 1638 Elwell Street Bldg 6236 Ft. Carson, CO 80913-4356

Re:

Facility Response Plan #FRP08D0014

Dear Mr. Kelm:

This letter is to notify you that the U.S. Environmental Protection Agency (EPA) has approved the Fort Carson's response plan based upon the regulatory requirements set forth in 40 CFR part 112. The approval of this response plan will remain valid until further notification from EPA. This approval of your facility's response plan does not exempt your facility from the requirement of coming into full compliance with 40 CFR part 112. The facility is expected to be in and remain in full compliance.

If EPA determines during any future review of the FRP revisions that the response plan is still inadequate, or if EPA acquires evidence that indicates the response plan prepared by your facility is insufficient for its purposes, EPA will require appropriate revisions to your plans. Failure to make such revisions may affect your plan's approval status.

If you have any questions about this letter, please contact me at (303) 312-6839.

Sincerely,

Martha A. Wolf

On-Scene Coordinator

DEPARTMENT OF THE ARMY

HEADQUARTERS, FORT CARSON

FORT CARSON, COLORADO 80913-5000

FACILITY RESPONSE PLAN



REVIEWED BY:

THOMAS L. WARREN

Director

Directorate of Environmental Compliance and Management

APPROVED BY:

MICHAEL RESTY, JR.

COLONEL, US ARMY

Garrison Commander

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ACRONYMS

AAFES Army Air Force Exchange Service

ACP Area Contingency Plan ACR Armored Cavalry Regiment

ASG Area Support Group

AST Aboveground storage tank
CFR Code of Federal Regulations

CHRIS Chemical Hazards Response Information System

CWA Clean Water Act

DECAM Directorate of Environmental Compliance and Management

DOD Department of Defense

DOT Department of Transportation

DRMO Defense Reutilization and Marketing Organization

EPO Environmental Protection Officer ERAP Emergency Response Action Plan

FORSCOM Forces Command FRP Facility Response Plan

gal Gallon

HAZMAT Hazardous materials

IOSC Installation On-Scene Coordinator LEPC Local Emergency Planning Committee

min Minute

MSDS Material Safety Data sheet NRC National Response Center

OPA Oil Pollution Act
OSC On-Scene Coordinator

PCMS Pinon Canyon Maneuver Site

PE Professional Engineer

POL Petroleum, Oils, and Lubricants SAP Satellite accumulation point

SERC State Emergency Response Committee

SFGA Special Forces Group Airborne

SPCCP Spill Prevention, Control, and Countermeasure Plan

USAR United States Army Reserve

U.S. EPA United States Environmental Protection Agency

UST Underground storage tank

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0.0 INTRODUCTION

0.1 PURPOSE AND SCOPE

This Facility Response Plan (FRP) is designed to minimize hazards to human health and the environment created by spills involving petroleum, oils, and lubricants (POL) or hazardous substances. The Plan designates responsibilities and procedures for a proper response to spill events. Implementation of the Plan will be required whenever there is a spill of POL or hazardous substances (including waste materials) which could:

- Threaten human health or welfare
- Cause or threaten to cause pollution of the environment
- Cause a visible sheen upon, or discoloration of, surface waters
- Result in public concern.

The FRP is designed to complement the Fort Carson Spill Prevention Control and Countermeasure Plan (SPCCP). The purpose of the SPCCP is to minimize the potential for a POL or hazardous substance spill, to prevent any spill from reaching navigable waterways, and to ensure that the cause of any spill is corrected. The purpose of the FRP is to plan and prepare for the response and impact of a potential spill. Together, these plans provide Fort Carson with a comprehensive approach from spill prevention to spill response.

0.2 REGULATORY REQUIREMENTS

The Federal Water Pollution Control Act of 1972, as amended by the Clean Water Act (CWA) in 1977 and the Oil Pollution Act (OPA) in 1990, required the United States Environmental Protection Agency (U.S. EPA) to promulgate regulations to protect the surface waters of the United States. Consequently, on December 11, 1973, the U.S. EPA published regulations for the prevention of the pollution of waters of the United States by oil from non-transportation-related onshore and offshore facilities. The regulations are codified as Title 40, Code of Federal Regulations, Part 112 (40 CFR 112), Oil Pollution Prevention, effective January 10, 1974. These regulations were subsequently revised July 17, 2002, effective August 16, 2002.

40 CFR 112.20 provides a detailed description of facilities that must submit an FRP. The "Certification of Applicability of the Substantial Harm Criteria," provided as Appendix C in 40 CFR 112, gives a checklist for facilities to use in determining if they need to submit an FRP. If the facility answers "yes" to any question on this checklist, an FRP must be submitted. The "Certification of Applicability of Substantial Harm" checklist for Fort Carson is included in the cover sheet section of this document.

0.3 FRP FORMAT

The FRP will be presented in the following format:

- Section 1, Emergency Response Action Plan (ERAP) A condensed version of the FRP that provides the response team with valuable information needed when responding to a release.
- Section 2, Facility Information An overview of Fort Carson and a description of past activities at the facility.
- Section 3, Emergency Response Information Telephone numbers, equipment lists, personnel lists, evacuation plans, and the Emergency Response Coordinator's duties.
- Section 4, Hazard Evaluation Possible hazards that exist, the possibility of a release occurring, the damage a spill would cause to the environment, and a history of previous spills that occurred at Fort Carson.
- Section 5, Discharge Scenarios Small, medium, and worst-case discharge scenarios; the steps taken to report, respond to, contain, and clean up a release; and calculations for response time and worst-case discharge amounts.
- Section 6, Discharge Detection Systems Details on how a release is detected.
- Section 7, Plan Implementation Methods and procedures taken to ensure the FRP is followed.
- Section 8, Self Inspection, Drills/Exercises, and Response Training Inspection guidelines and training conducted to ensure personnel are familiar with spill response procedures.
- Section 9, Diagrams Maps and drawings of the facility.
- Section 10, Site Security Security measures taken to prevent accidental discharge.

The Emergency Response Action Plan (ERAP) co-locates several sections of the Fort Carson FRP for easy access by response personnel during an oil or hazardous substance spill. The ERAP contains only as much information as is necessary to combat a spill and is arranged so that response actions are not delayed. The ERAP has the following information:

- 1.1 Qualified individual information
- 1.2 Emergency notification telephone list
- 1.3 Spill response notification form
- 1.4 Response equipment list and location
- 1.5 Response equipment testing and deployment drill log
- 1.6 Emergency response personnel
- 1.7 Evacuation plan
- 1.8 Immediate actions
- 1.9 Facility diagram

For additional information on spill mitigation procedures, see Sections 2 through 10 of this FRP.

1.1 QUALIFIED INDIVIDUAL INFORMATION

The qualified individual for the Fort Carson FRP is the Directorate of Environmental Compliance and Management (DECAM) Installation On-Scene Coordinator (IOSC). Upon notification of an oil or hazardous substance release to a drain or storm ditch, the DECAM IOSC, or designee, will be available for technical assistance. The DECAM IOSC has full authority to implement removal actions, and in all instances will be responsible for initiating state and federal notification procedures.

DECAM IOSC						
Name:	Edward Tebo					
Title:	Hazardous Waste Program Manager					
Emergency Telephone for IOSC or designee:	(719) 524-3534					
Cellular Telephone for IOSC:	(719) 338-1625					

Mr. Tebo has received the OSHA 40-hour hazardous materials training, annual 8-hour refreshers each year, and has 10 years of experience.

1.2 EMERGENCY NOTIFICATION TELEPHONE LIST

Occasion	Organization	Phone Number
If individual unit cannot	Installation Fire Department	911*
control oil or hazardous substance release, notify:	Qualified Individual: Daytime Number	524-3534
	Qualified Individual: Evening Number	597-0153
	Fort Carson DECAM	526-2022
	Fort Carson Safety Office	526-2123
	Emergency Operation Center	526-4181
	Military Police	526-2333
	Officer of the Day	526-2123
	Fort Carson Weather Office ^a	526-3620
	4 th Engineer Battalion ^a	526-4662
	Fort Carson Telephone Operator ^a	526-3431
If Fort Carson Fire De-	Colorado Springs Fire Department	99-911
partment cannot control oil or hazardous substance	National Response Center (NRC)	1-800-424-8802
release, notify:	Federal On-Scene Coordinator (OSC)	1-800-227-8914
	State Emergency Response Committee (SERC) ^b	1-877-518-5608
	Local Emergency Planning Committee (LEPC) ^b	575-8400
	Fort Carson Public Affairs Office	526-4143
	Colorado Springs Police Department ^b	99-911
	Colorado Springs Public Works Department ^b	575-8400
	State Police ^a	1-303-239-4501
	Hospital/ambulance ^a	99-911
	Radio/TV stations ^b	
	KKTV ^b	634-2844
	KOAA TV ^b	632-3050
	KRDO ^b	632-1515
	KXRM TV ^b	596-2100

^{*} When using cellular telephone, caller must inform operator that call is being placed from Fort Carson.

Date of Last Update: 1/01/2004

a Notify as needed.

^b To be notified only by DECAM.

1.3 SPILL RESPONSE NOTIFICATION FORM

General Information						
Reporter's Last N	Name:	F	irst:	M.I.:		
Position:	Position:					
Day Phone Num	ber:	E	vening Phone Num	nber:		
Company:						
Organization Typ	e:					
Address:						
City:		S	tate:	Zip:		
Were Materials D	Discharged (Yes/N	o):				
Confidential Infor	mation (Yes/No):					
Meeting Federal	Obligations to Rep	oort (Yes/No):		Date Calle	d:	
Calling for Respo	onsible Party(Yes/I	No):		Time Calle	ed:	
		Incident D	escription	Ţ		
Source of Incider	nt:					
Cause of Inciden	t:					
Date of Incident:		Time	e of Incident:	AM/PM:		
Incident Address	/Location:					
Nearest City:		State	e:			
Distance from Ci	ty:	Unit	of Measure:			
Direction from Ci	ty:					
Section:		Tow	nship:			
Range:		Boro	ough:			
Container Type:						
Tank Oil Storage	Capacity:	Units	s of Measure:			
Facility Oil Storag		Units	s of Measure:			
Facility Latitude:		Degrees	Mini	utes	Seconds	
Facility Longitude	ə:	Degrees	Mini	utes	Seconds	
, G	-	Material	Spilled	-		
CHRIS	Discharged	Unit of	Discharged in	Quantity in	Unit of	
Code	Quantity	Measure	Water (Yes/No)	Water	Measure	

SPILL RESPONSE NOTIFICATION FORM - Continued

Response Action					
Actions Taken to Correct, Control, or Mitigate	Incident:				
	Impact				
Number of Injuries:	Number of Deaths:				
Were there Evacuations (Yes/No):	Number Evacuated:				
Was there any Damage (Yes/No):	Damage in Dollars (Approximate):				
Medium Affected:					
Description of Medium:					
Additional Information about Medium:					
tibbA	ional information				
Any Information about Incident Not Recorded					
Elsewhere:					
	er Notifications				
Environmental Protection Agency (Yes/No):					
United States Coast Guard (Yes/No):					
State (Yes/No): Other (Yes/No):					
Description of Other:					
Description of Other.					

1.4 RESPONSE EQUIPMENT LIST AND LOCATION

Skimmers/Pumps - Operational Status							
	Type: Decon Pool Pumps Model: NA Year: NA						
Number: Two (2) Capacity (gal/min):							
Daily Effective Recovery Rate:							
Storage Location: H		<u> </u>					
Date Fuel Last Char	igea: INA						
Type:		Model:			Year:		
Number:		Capaci	ty (a:	al/min)·	roar.		
Daily Effective Reco	verv Rate:	Оарасі	ty (go	۱/۱۱۱۱۱۱).			
Storage Location:							
Date Fuel Last Char	iged:						
	<u> </u>	Booms - 0	Oper	ational St	atus		
Type:		Model:			Year:		
Number:		Size (length in	feet):	Containme	nt Are	a (square feet):
Storage Location:							
Type:		Model:			Year:		
Number:		Size (length in	feet)):	Containme	nt Are	a (square feet):
Storage Location:							
Type:		Model:			Year:		
Number:		Size (length in	feet):	Containme	nt Are	a (square feet):
Storage Location:							
		Chemicals (Disp		_		
-			_	Date	Treatme		0, ,
Туре	Am	nount	Pu	rchased	Capaci	ty	Storage Location
Were appropriate pro	ocadurae ue	ed to receive a	nnrov	al for use	of dispersar	nte in s	accordance with the
NCP (40 CFR 300.9							
Name and State of C							,
Date Authorized:							
	Dispersa	nt Dispensing	Equi	ipment - C	Operational	Statu	s
Type and Ye	ear	Capacity		Storage	Location	Re	sponse Time (minutes)
			_				
Sorbents – Operational Status							
Type: Miscellaneous		Pads, Clay Gra	nules	s, Sorbent	Powder)		
Year Purchased: NA							
Amount:							
	Absorption Capacity (gallons): Storage Location: HAZMAT Van						
Sidiage Location. I	ALIVIA I Val	I					

RESPONSE EQUIPMENT LIST AND LOCATION - Continued

	Hand Tools – Operational Stat	tus
Type and Year	Quantity	Storage Location
Brass Shovels	Two (2)	HAZMAT Van
Brass Scoop Shovels	Two (2)	HAZMAT Van
Bolt Cutters	One (1)	HAZMAT Van
Sledge Hammer	One (1)	HAZMAT Van
Tool Boxes (Miscellaneous)	Two (2)	HAZMAT Van
Brass Rakes	Two (2)	HAZMAT Van
Brooms	Six (6)	HAZMAT Van
Ladder	One (1)	HAZMAT Van
	Communication Equipment	t t
Type and Year	Quantity	Storage Location/Number
Fire-Fighting an	d Personal Protective Equipmen	t - Operational Status
Type and Year	Quantity	Storage Location
Miscellaneous Coveralls	NA	HAZMAT Van
Miscellaneous Boots	NA	HAZMAT Van
Miscellaneous Gloves	NA	HAZMAT Van
Hard Hats	Six (6)	HAZMAT Van
Air-Purifying Respirators	Two (2)	HAZMAT Van
Respirator Cartridges	Twelve (12)	HAZMAT Van
Air Packs	Seven (7)	HAZMAT Van
Gas Detectors	Three (3)	HAZMAT Van
Other (e.g., Hea	yy Equipment, Boats and Motors) - Operational Status
Type and Year	Quantity	Storage Location
		1

Date of Last Update: 01/01/2004

1.5 RESPONSE EQUIPMENT TESTING AND DEPLOYMENT DRILL LOG

Response	Inspection	Deployment	Last Inspection	Last Deployment
Equipment	Frequency	Frequency	Date	Date

Date of Last Update: 01/01/2004

1.6 RESPONSE PERSONNEL

1.6.1 Fire Department Emergency Response Personnel

Name	Phone	Response Time	Responsibility During Response Action	Response Training
S. Huffman	(719) 526-5615	0-5 minutes	Team Leader	Fire/Spill Response
D. Broden	(719) 526-5615	0-5 minutes	Team Member	Fire/Spill Response
R. Ortega	(719) 526-5615	0-5 minutes	Team Member	Fire/Spill Response
S. Polizzi	(719) 526-5615	0-5 minutes	Team Member	Fire/Spill Response
M. Orr	(719) 526-5615	0-5 minutes	Team Member	Fire/Spill Response
A. Harris	(719) 526-5615	0-5 minutes	Team Member	Fire/Spill Response
B. Balton	(719) 526-5615	0-5 minutes	Team Member	Fire/Spill Response
T. Keuker	(719) 526-5615	0-5 minutes	Team Member	Fire/Spill Response
M. VanDyke	(719) 526-5615	0-5 minutes	Team Member	Fire/Spill Response
D. Bauman	(719) 526-5615	0-5 minutes	Team Member	Fire/Spill Response
J. Berry	(719) 526-5615	0-5 minutes	Team Member	Fire/Spill Response
P. Tepley	(719) 526-5615	0-5 minutes	Team Member	Fire/Spill Response
B. Gallagher	(719) 526-5615	0-5 minutes	Team Member	Fire/Spill Response
M. Flores	(719) 526-5615	0-5 minutes	Team Member	Fire/Spill Response
J. Onorato	(719) 526-5615	0-5 minutes	Team Member	Fire/Spill Response
J. Werner	(719) 526-5615	0-5 minutes	Team Member	Fire/Spill Response
J. Schliske	(719) 526-5615	0-5 minutes	Team Member	Fire/Spill Response

Date of Last Update: 01/01/2004

1.6.2 DECAM Spill Response Team

Name	Training Level	Response Time	Responsibility During Response Action
Ed Tebo	Technical Level Responder	1 hour	Qualified Individual
Phil Cathey	Technical Level Responder	As needed (2 hours max)	Team member
Don Sullivan	Technical Level Responder	As needed (2 hours max)	Team member
Francis Calar	Technical Level Responder	As needed (2 hours max)	Team member
Terry Eberle	First Responder	As needed (2 hours max)	Team member
Barney Rohrer	First Responder	As needed (2 hours max)	Team member
Hal Hilton	First Responder	As needed (2 hours max)	Team member
Joe Tarquino	First Responder	As needed (2 hours max)	Team member
Paula Dornick	First Responder	As needed (2 hours max)	Team member
Jennifer Webb	First Responder	As needed (2 hours max)	Team member
Ronnie Campbell	First Responder	As needed (2 hours max)	Team member
Mark Bartle	First Responder	As needed (2 hours max)	Team member

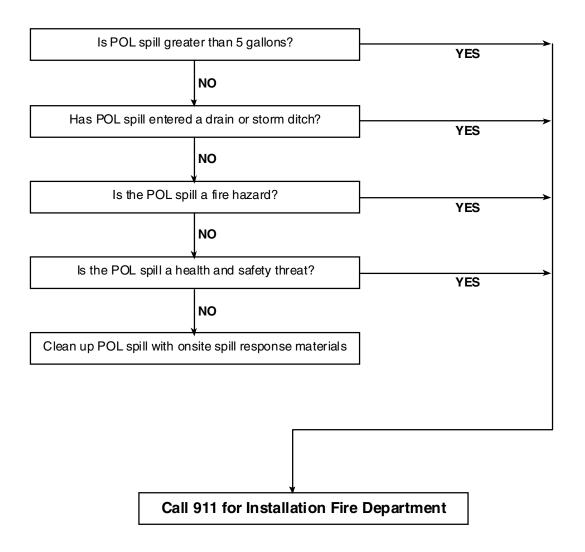
1.7 EVACUATION PLAN

An evacuation plan has not been prepared for Fort Carson spill response efforts because of the geographic separation of POL and hazardous substance storage facilities and the small quantities stored in each location. In the unlikely event that evacuation is necessary, the DECAM IOSC will contact the Military Police to initiate evacuation activities.

1.8 IMMEDIATE ACTIONS

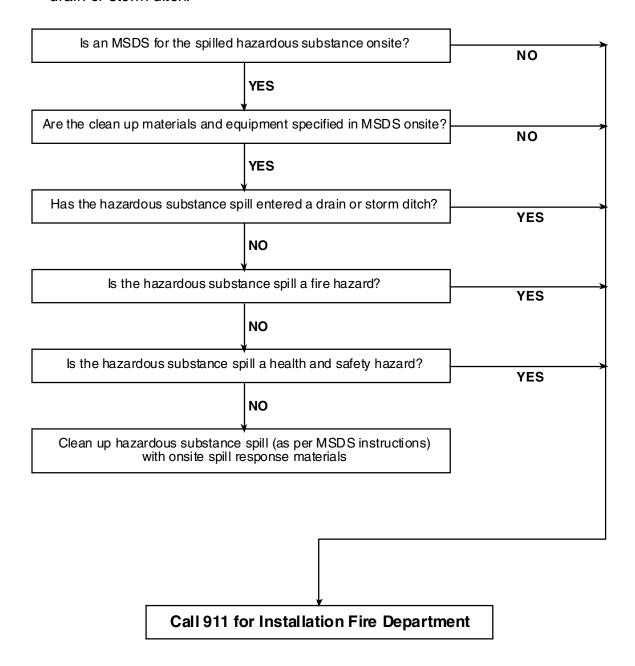
1.8.1 POL

- 1. Stop the product flow. Without endangering personnel health and safety, prevent any further POL spillage.
- 2. Use onsite spill response materials to minimize or prevent the POL spill from entering a drain or storm ditch.

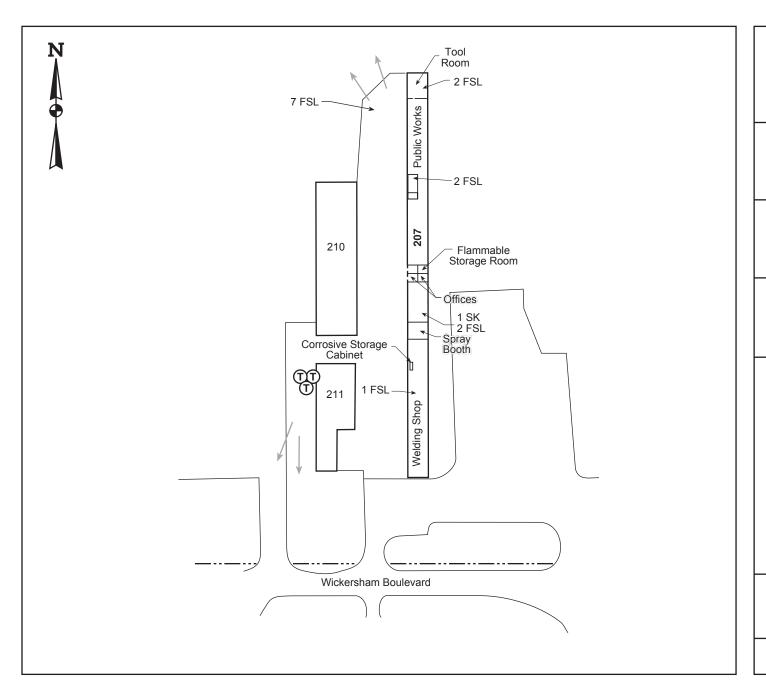


1.8.2 Hazardous Substances

- Stop the product flow. Without endangering personnel health and safety, prevent any further hazardous substance spillage.
- 2. Use onsite spill response materials (if appropriate as per MSDS instructions) to minimize or prevent the hazardous substance spill from entering a drain or storm ditch.



1.9 FACILITY DIAGRAMS



Building 207 Public Works Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

FSL Flammable Storage Locker

SK Spill Kit X X Fence

☐ Tank Location

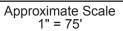
Pole-Mounted Transformer

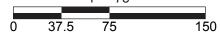
Pad-Mounted Transformer

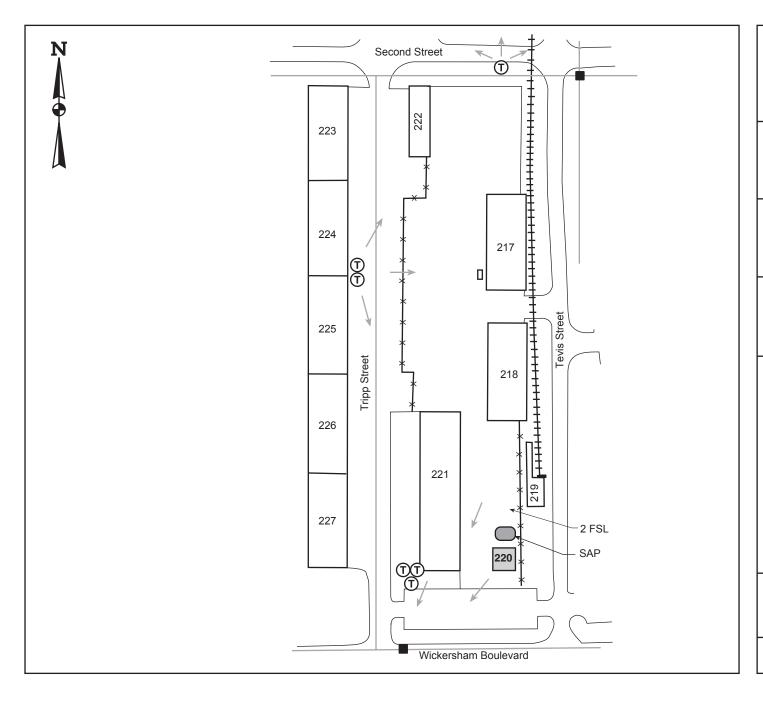
Storm Drain

--- Drainage Ditch/Culvert

Direction of Flow







Building 220 Base Operations Contractor Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

FSL Flammable Storage Locker

SK Spill Kit

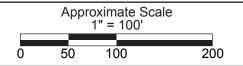
X X Fence

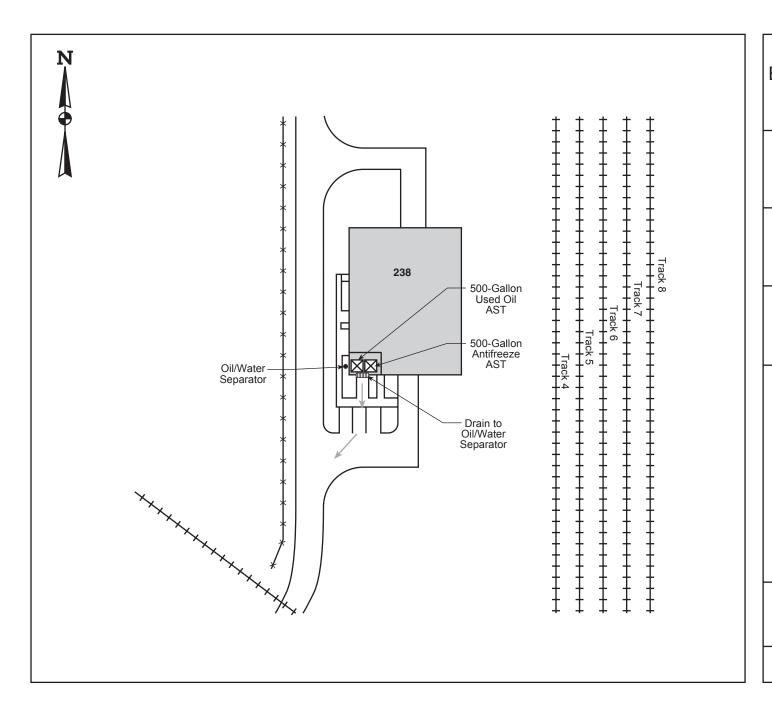
Pole-Mounted Transformer

Storm Drain

Storm Sewer LineDirection of Flow

Satellite Accumulation Point





Building 238 Engine Maintenance Building Fort Carson, CO

Hazardous Materials Inventory

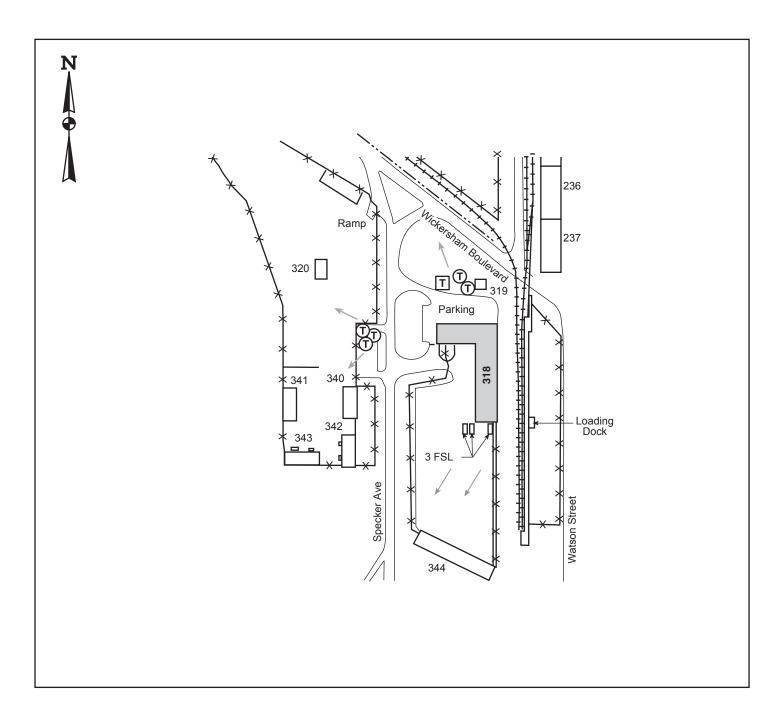
> Storage Location Map



X X Fence

Direction of Flow

Not to Scale



Building 318 DRMO Salvage and Material Segregation Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

FSL Flammable Storage Locker

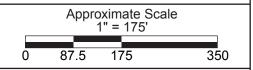
X X Fence

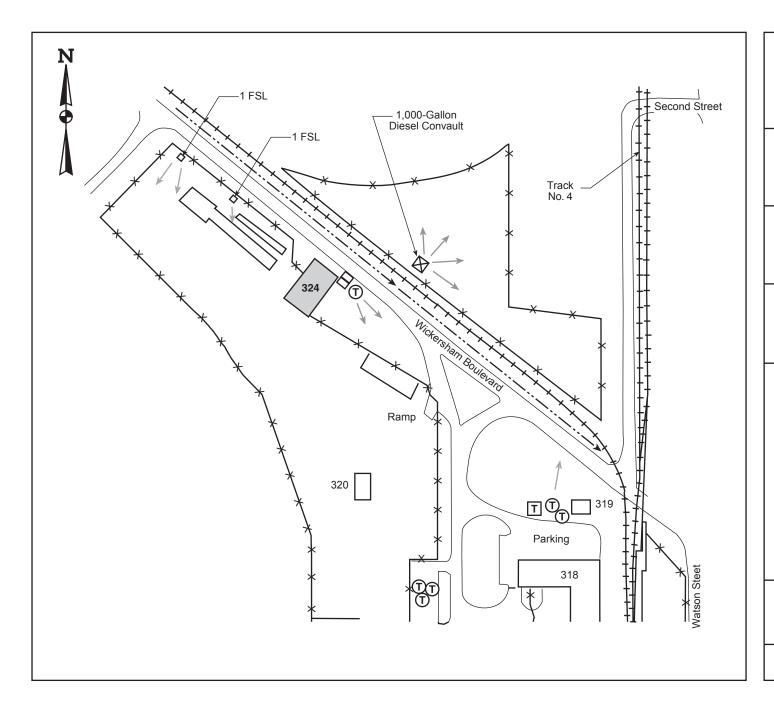
Pole-Mounted Transformer

Pad-Mounted Transformer

---- Drainage Ditch/Culvert

Direction of Flow





Building 324 DRMO Salvage and Surplus Property Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

FSL Flammable Storage Locker

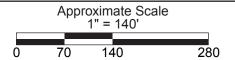
X X Fence

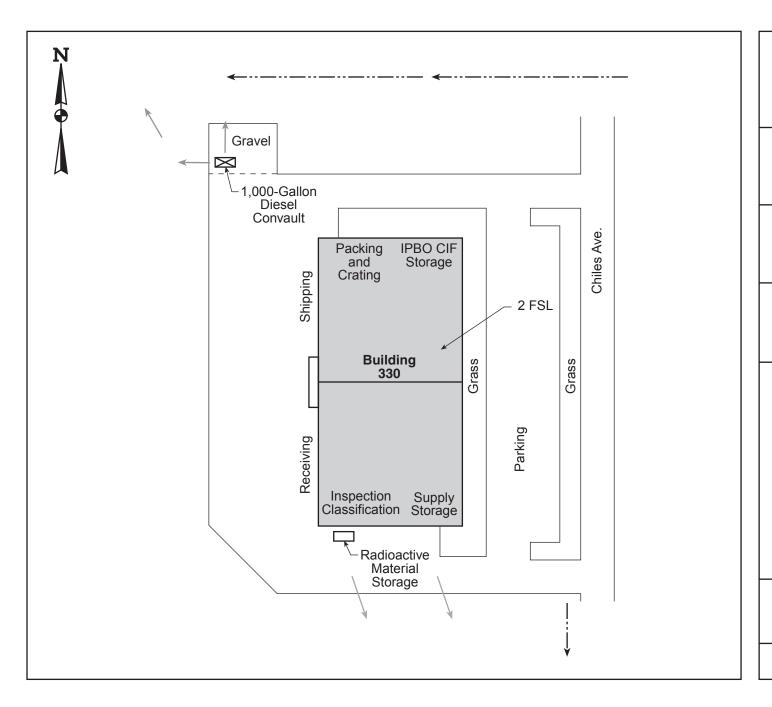
r) Pole-Mounted Transformer

Pad-Mounted Transformer

Drainage Ditch/Culvert

Direction of Flow





Building 330 Central Issue Facility Fort Carson, CO

Hazardous Materials Inventory

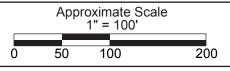
Storage Location Map

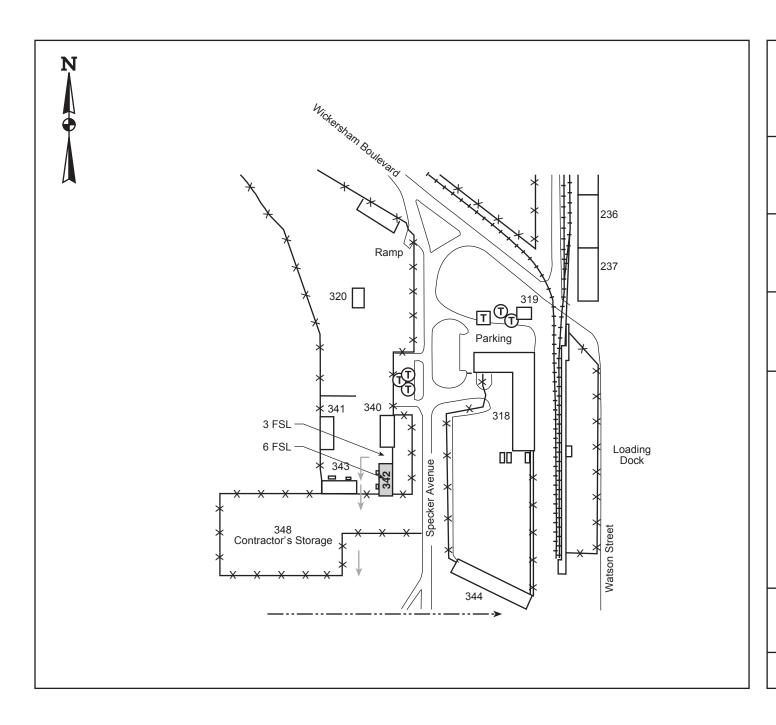


FSL Flammable Storage Locker

---- Drainage Ditch/Culvert

Direction of Flow





Building 342 DRMO 90-Day Storage Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

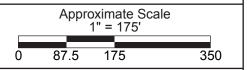
FSL Flammable Storage Locker

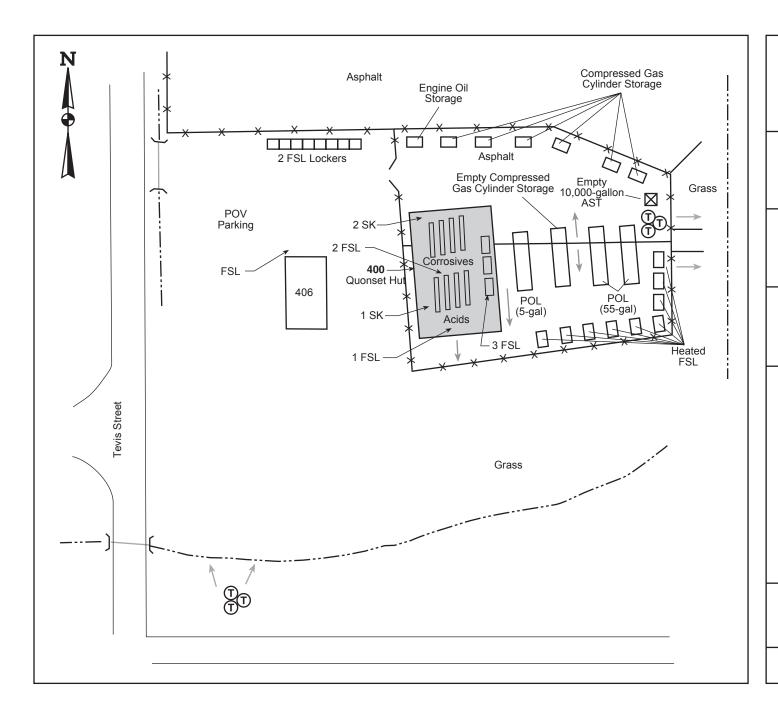
X X Fence

Pole-Mounted Transformer

Pad-Mounted Transformer

Direction of Flow





Building 400 Hazardous Material Control Center Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

FSL Flammable Storage Locker

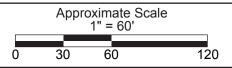
SK Spill Kit

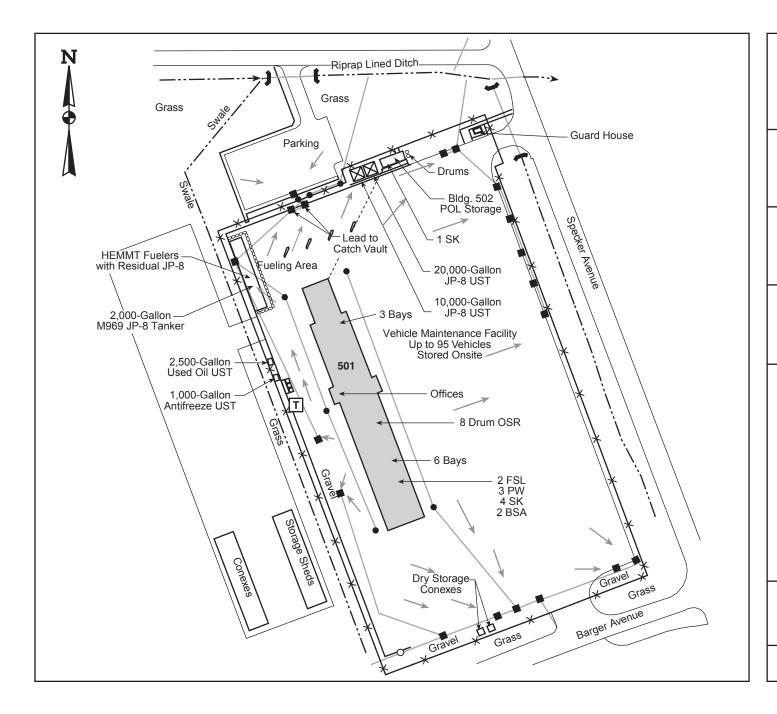
X X Fence

T) Pole-Mounted Transformer

---- Drainage Ditch/Culvert

Direction of Flow





Building 501 52nd Engineers Motor Pool Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



BSA Battery Storage Area

FSL Flammable Storage Locker

OSR Oil Storage Rack

PW Parts Washer

SK Spill Kit

X X Fence

— --- Drainage Ditch/Culvert

— Storm Sewer Line

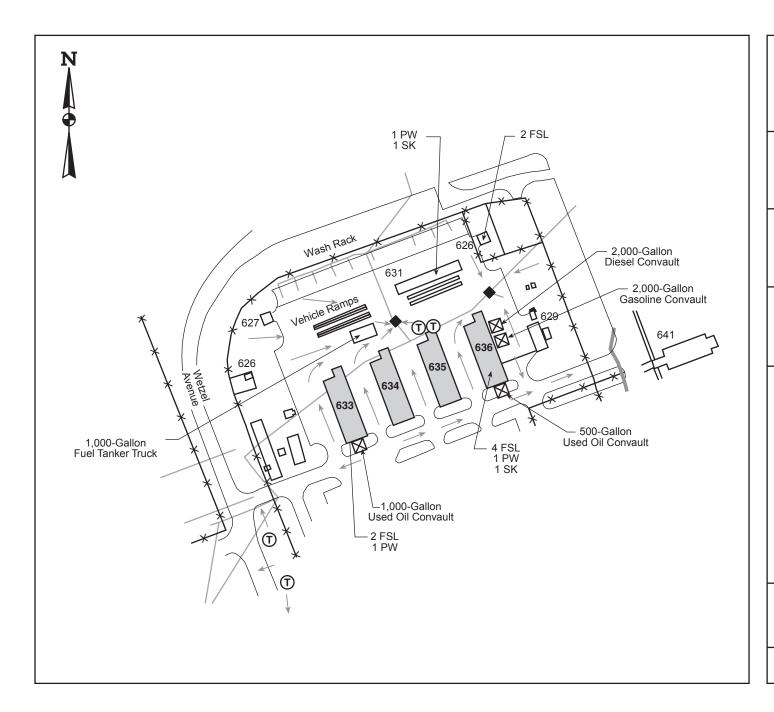
Sandbag Containment

Direction of Flow

T Pad-Mounted Transformer

Storm Drain

Approximate Scale 1" = 109' 0 54.5 109 208



Buildings 633-636 5th Armored and DECAM Vehicle Maintenance Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw[™] Shaw Environmental, Inc.

FSL Flammable Storage Locker

SK Spill Kit

PW Parts Washer

X X Fence

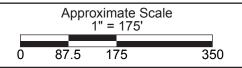
▼ Tank Location

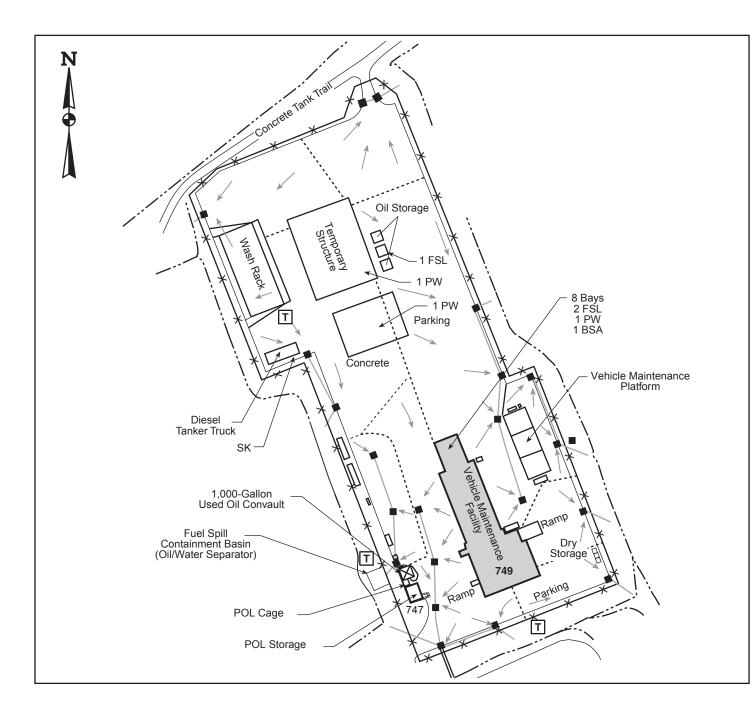
To Pole-Mounted Transformer

Direction of Flow

Storm Drain

—— Storm Sewer Line





Building 749 UNC Vehicle Reclamation Facility Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw Shaw Environmental, Inc.

BSA Battery Storage Area

FSL Flammable Storage Locker

SK Spill Kit

PW Parts Washer

X X Fence

Pad-Mounted Transformer

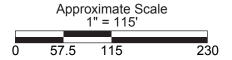
---- Drainage Ditch/Culvert

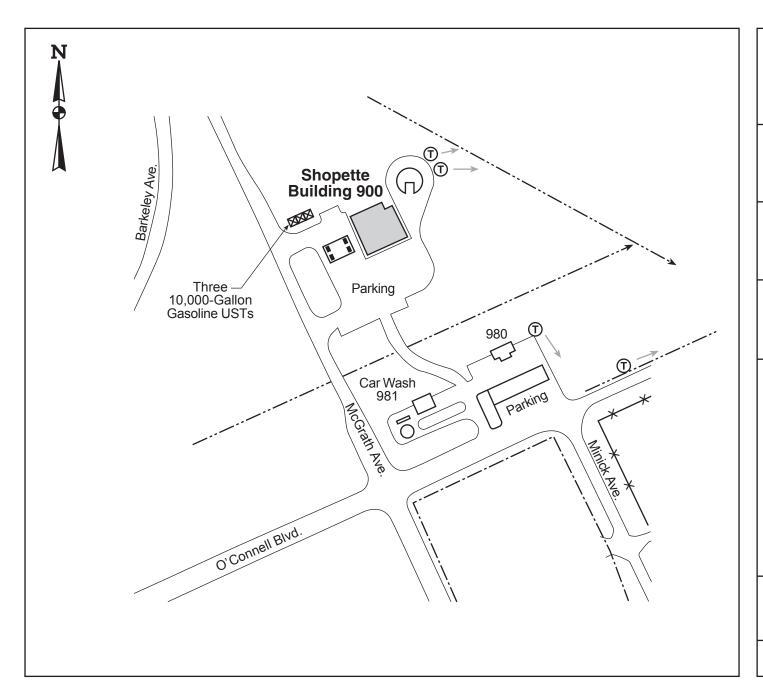
Direction of Flow

Sandbag Containment

Storm Drain

Storm Sewer Line





Building 900 Shopette Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



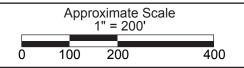
Shaw™ Shaw Environmental, Inc.

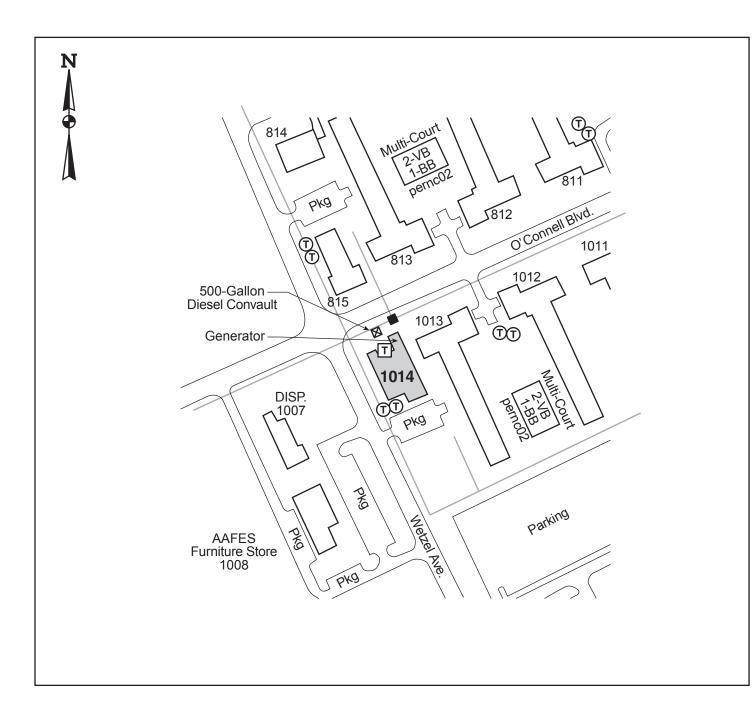
X X Fence

T Pole-Mounted Transformer

---- Drainage Ditch/Culvert

Direction of Flow





Building 1014 Commo Center Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



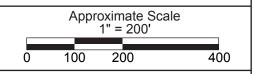
Shaw™ Shaw Environmental, Inc.

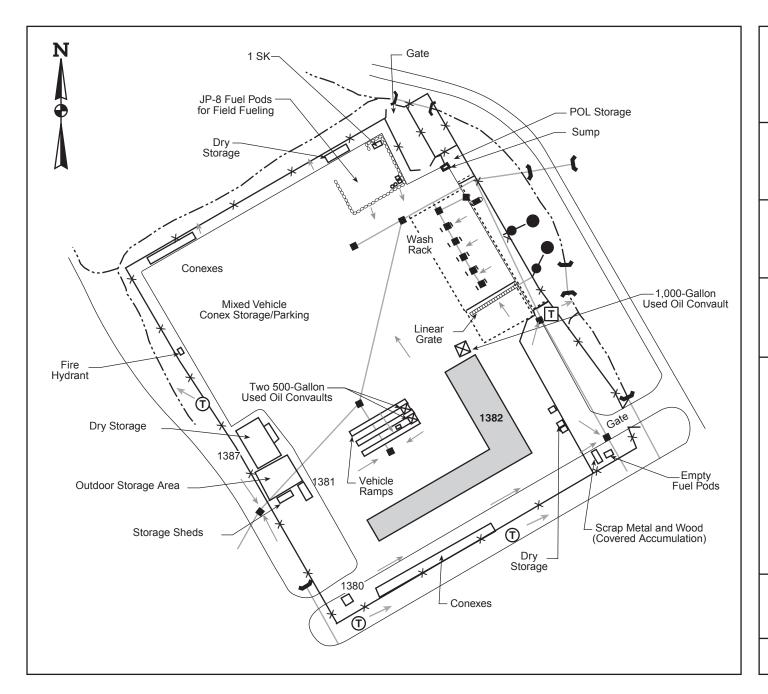
T Pole-Mounted Transformer

T Pad-Mounted Transformer

Storm Drain

Storm Sewer Line





Building 1382 43rd ASG Vehicle Maintenance Shop Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

FSL Flammable Storage Locker

SK Spill Kit

X X Fence

Pole-Mounted Transformer

Pad-Mounted Transformer

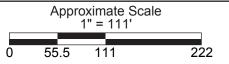
Storm Drain

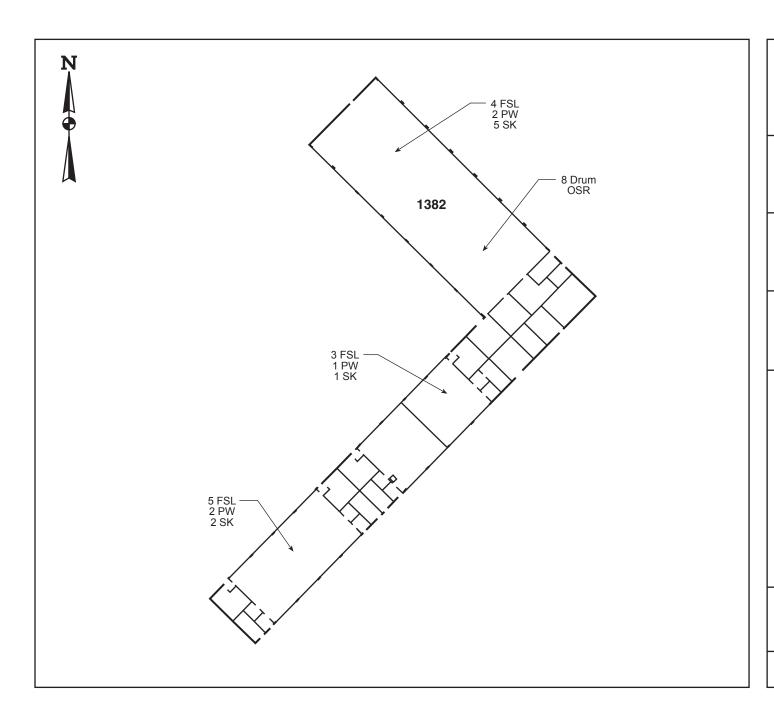
---- Drainage Ditch/Culvert

Storm Sewer Line

Direction of Flow

Sandbag Containment





Building 1382 43rd ASG Vehicle Maintenance Shop Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map

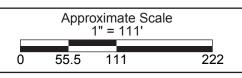


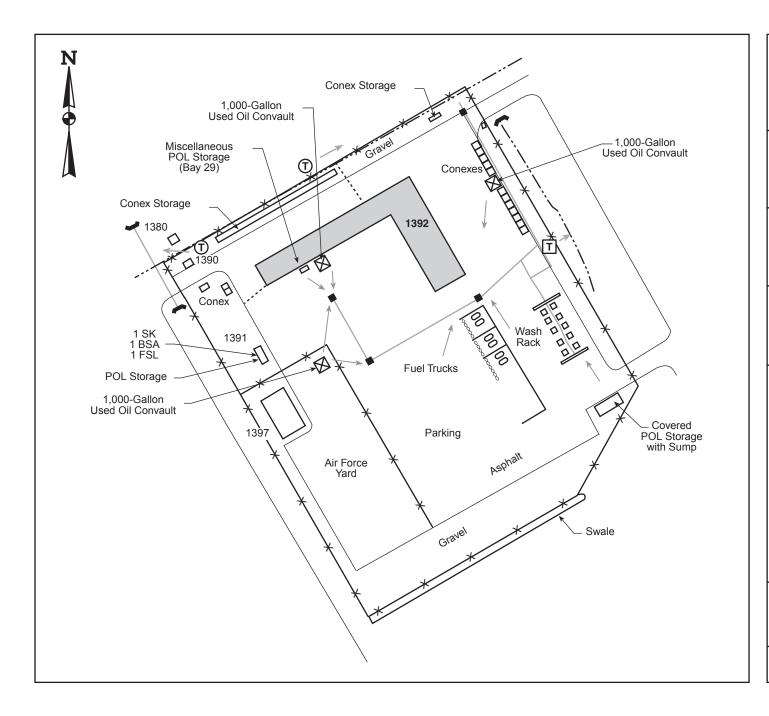
OSR Oil Storage Rack

PW Parts Washer

FSL Flammable Storage Locker

SK Spill Kit





Building 1392 43rd ASG Motor Pool Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

BSA Battery Storage Area

FSL Flammable Storage Locker

SK Spill Kit

X X Fence

Pole-Mounted Transformer

T Pad-Mounted Transformer

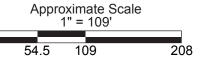
Storm Drain

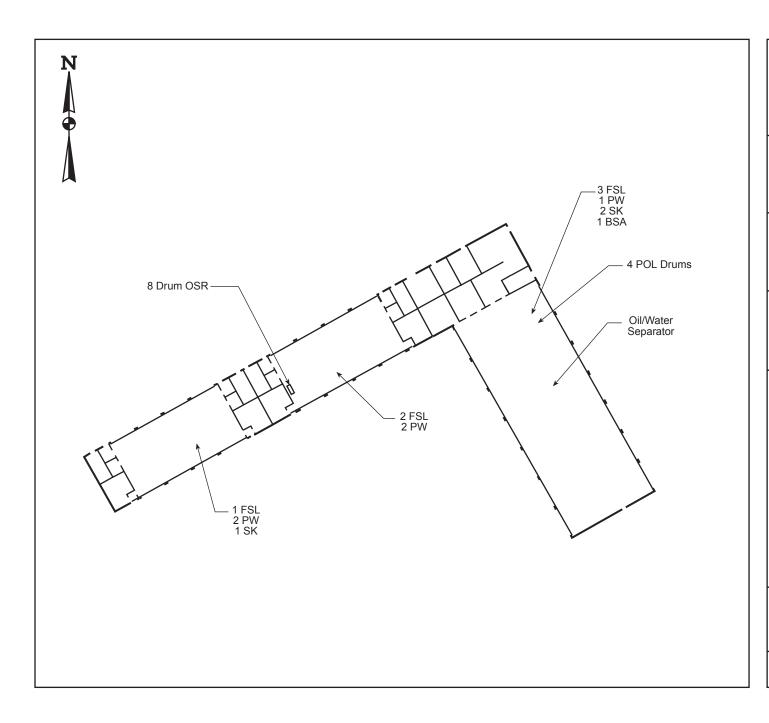
— --- Drainage Ditch/Culvert

— Storm Sewer Line

Direction of Flow

Sandbag Containment





Building 1392 43rd ASG Motor Pool Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



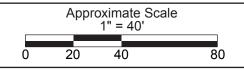
BSA Battery Storage Area

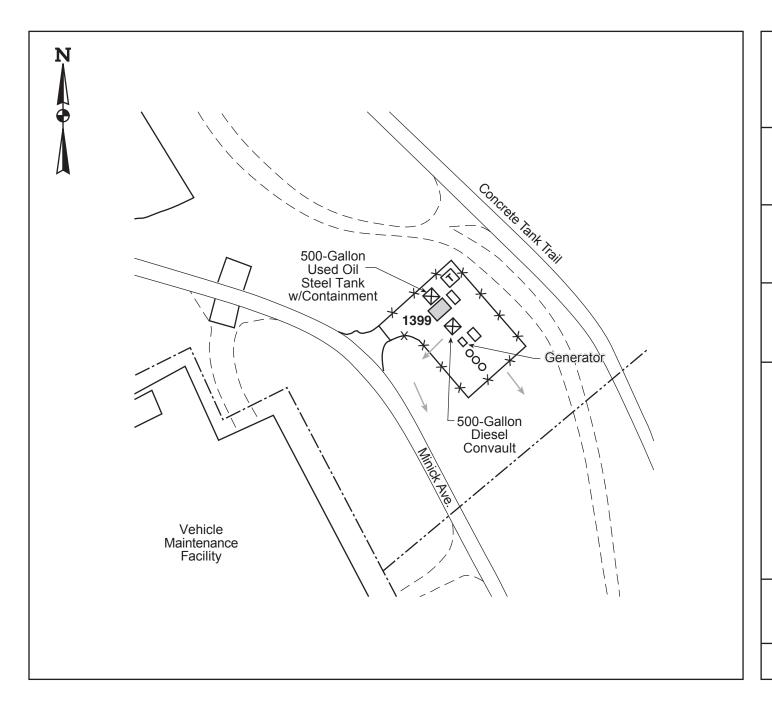
OSR Oil Storage Rack

PW Parts Washer

FSL Flammable Storage Locker

SK Spill Kit





Building 1399 Pump Station Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



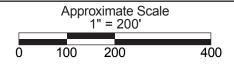
X X Fence

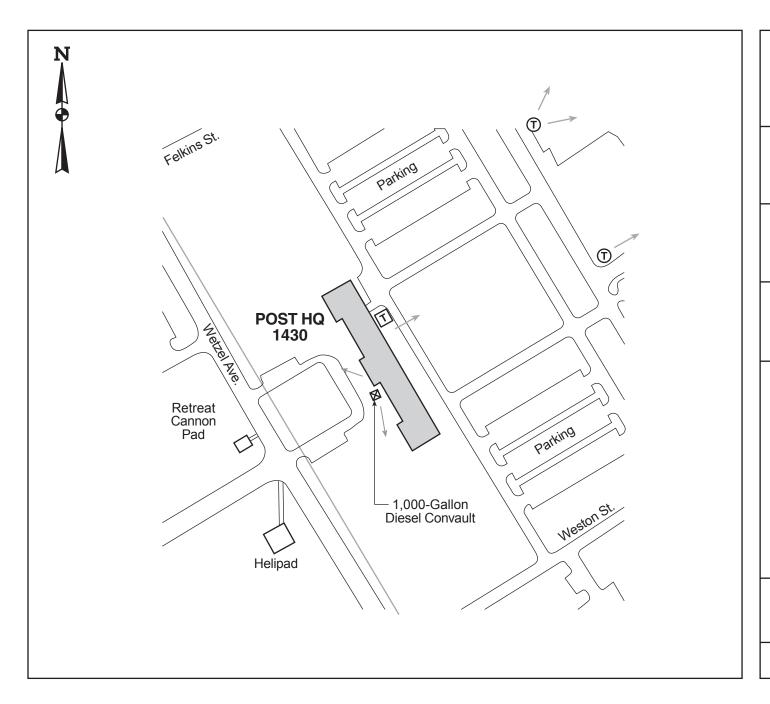
Tank Location

Pad-Mounted Transformer

---- Drainage Ditch/Culvert

Direction of Flow





Building 1430 Post Headquarters Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



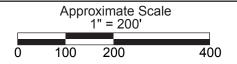
Shaw™ Shaw Environmental, Inc.

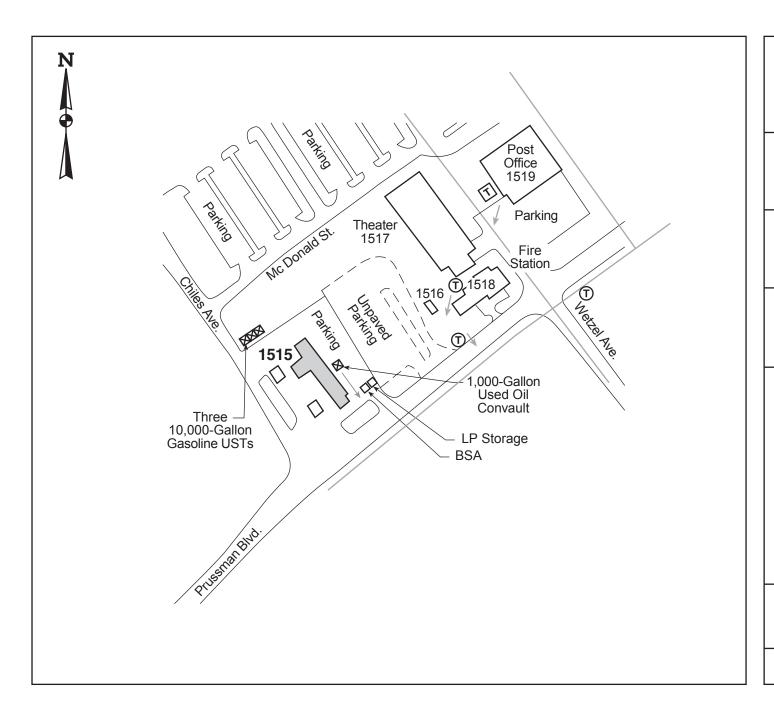
Pole-Mounted Transformer

Pad-Mounted Transformer

Storm Sewer Line

Direction of Flow





Building 1515 PX Gas Station Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



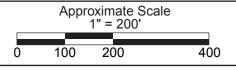
BSA Battery Storage Area

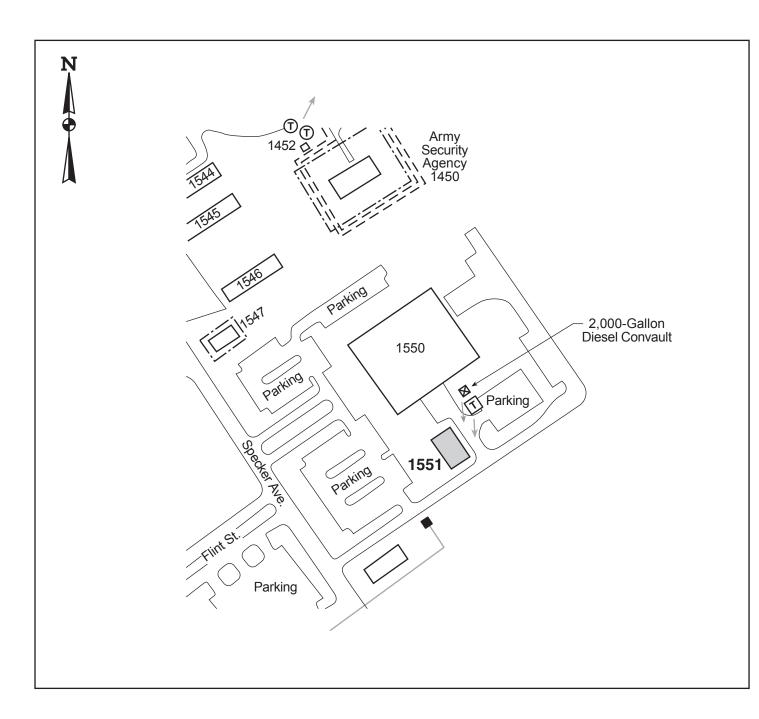
Pole-Mounted Transformer

Pad-Mounted Transformer

Storm Sewer Line

Direction of Flow





Building 1551 Information Systems Facility Fort Carson, CO

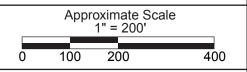
Hazardous Materials Inventory

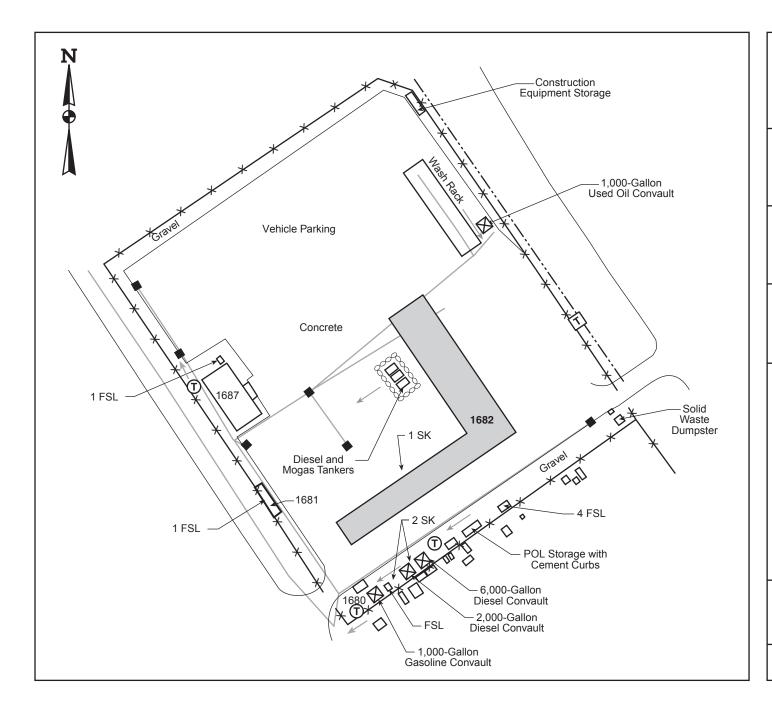
Storage Location Map



oriav Erwitorittai, iri

- T Pole-Mounted Transformer
- T Pad-Mounted Transformer
- Storm Drain
- ---- Drainage Ditch/Culvert
- —— Storm Sewer Line
- Direction of Flow





Building 1682
Base Operations Contractor
Maintenance Facility
Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

FSL Flammable Storage Locker

SK Spill Kit

X X Fence

D Pole-Mounted Transformer

T Pad-Mounted Transformer

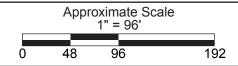
Storm Drain

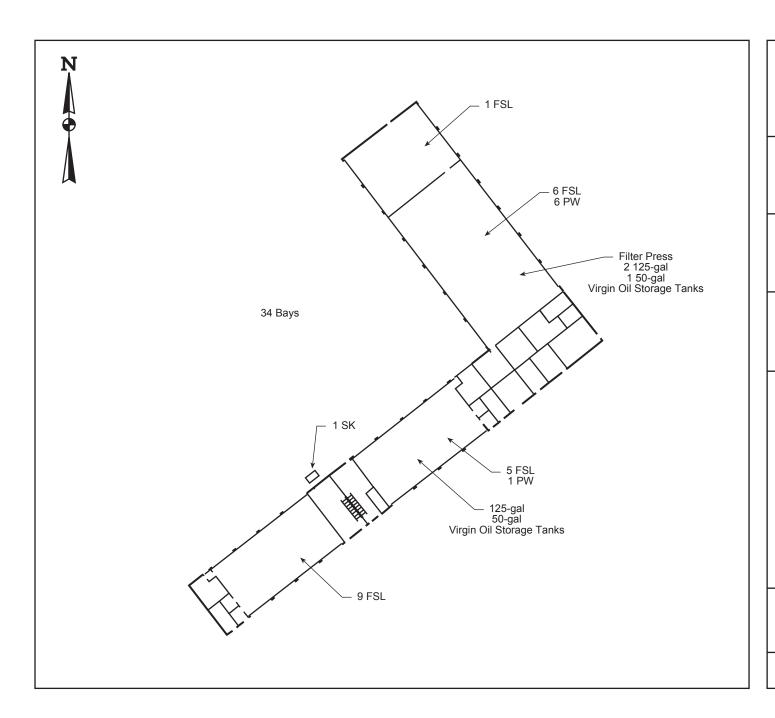
— --- Drainage Ditch/Culvert

— Storm Sewer Line

Direction of Flow

Sandbag Containment





Building 1682
Base Operations Contractor
Maintenance Facility
Fort Carson, CO

Hazardous Materials Inventory

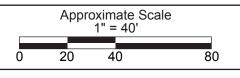
Storage Location Map

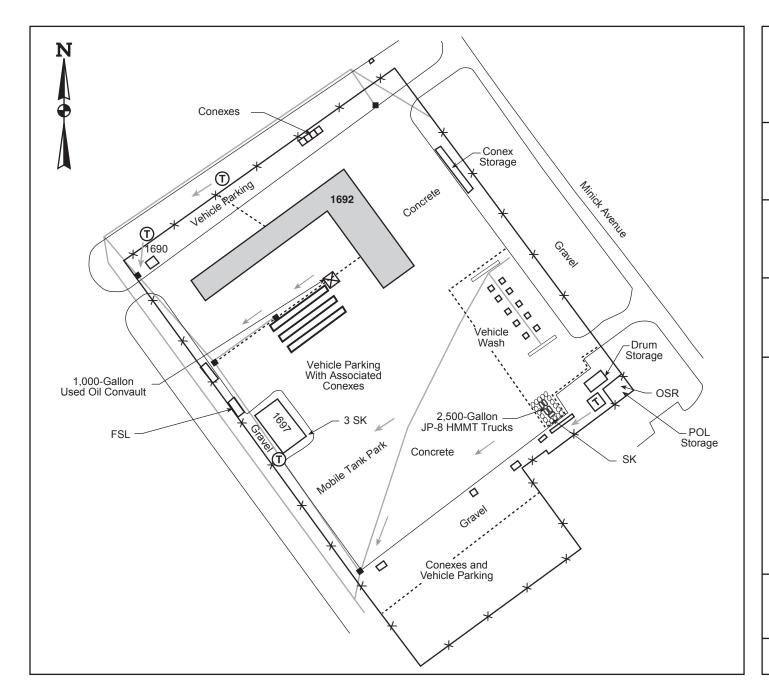


PW Parts Washer

FSL Flammable Storage Locker

SK Spill Kit





Building 1692 4th Engineers Motor Pool Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

OSR Oil Storage Rack

FSL Flammable Storage Locker

SK Spill Kit

X X Fence

T) Pole-Mounted Transformer

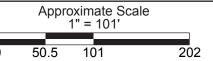
Pad-Mounted Transformer

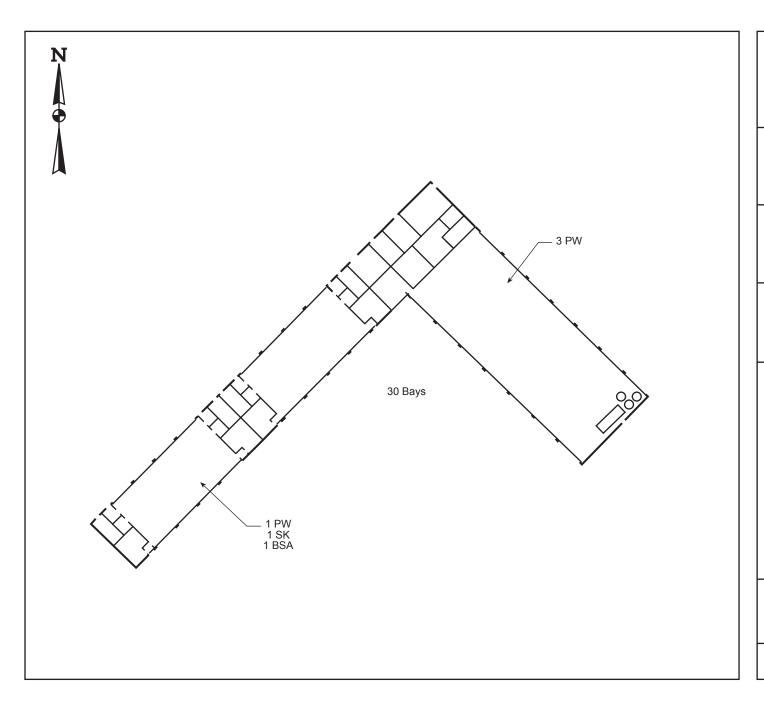
Storm Drain

— Storm Sewer Line

Direction of Flow

Sandbag Containment





Building 1692 4th Engineers Motor Pool Fort Carson, CO

Hazardous Materials Inventory

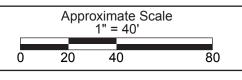
Storage Location Map

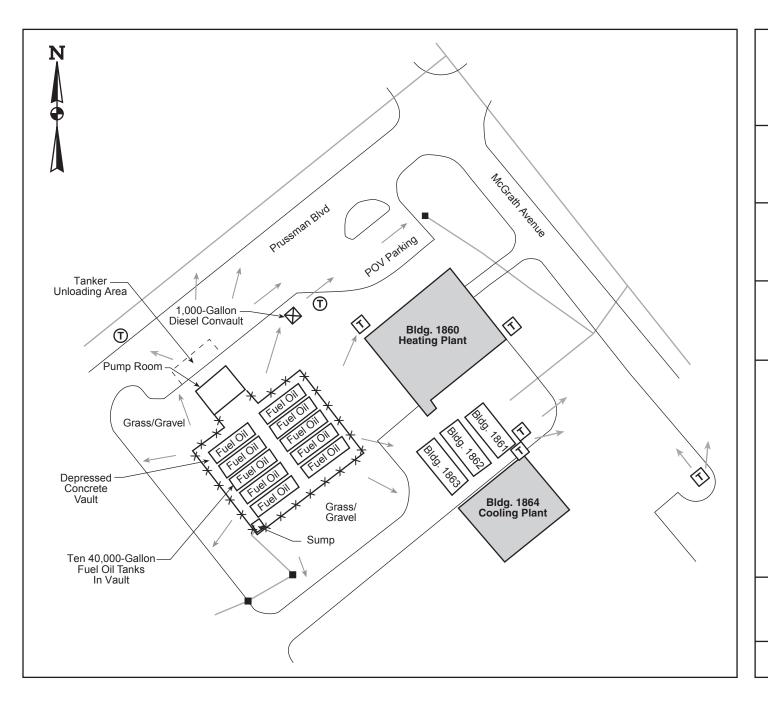


BSA Battery Storage Area

PW Parts Washer

SK Spill Kit





Buildings 1860 and 1864 Heating/Cooling Plant Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

X X Fence

T) Pole-Mounted Transformer

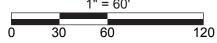
T Pad-Mounted Transformer

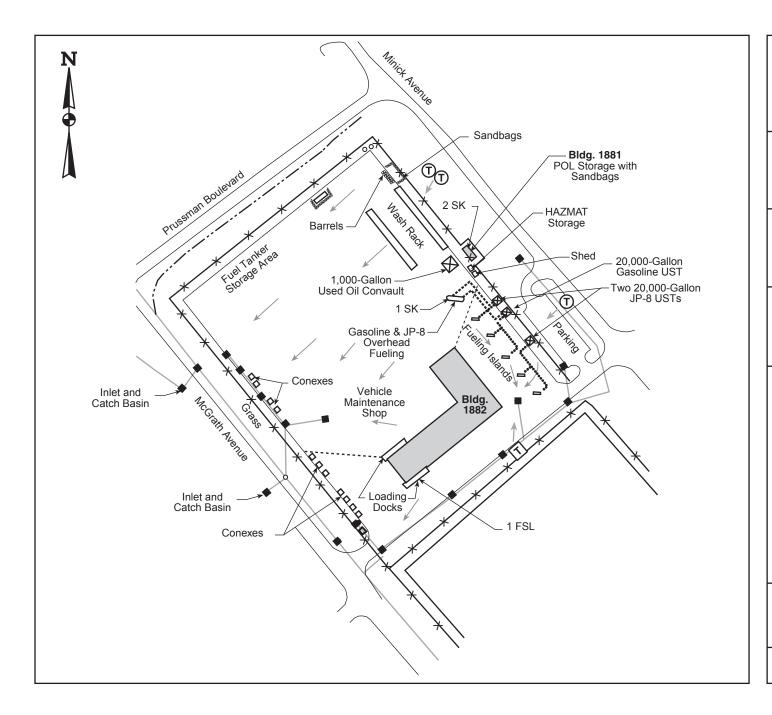
Storm Drain

— Storm Sewer Line

Direction of Flow

Approximate Scale 1" = 60'





Buildings 1881 and 1882 3/29 ARTY Motor Pool Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw Livioninental, inc.

FSL Flammable Storage Locker

SK Spill Kit

X X Fence

D Pole-Mounted Transformer

Pad-Mounted Transformer

Storm Drain

--- Drainage Ditch/Culvert

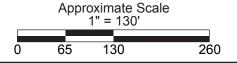
— Storm Sewer Line

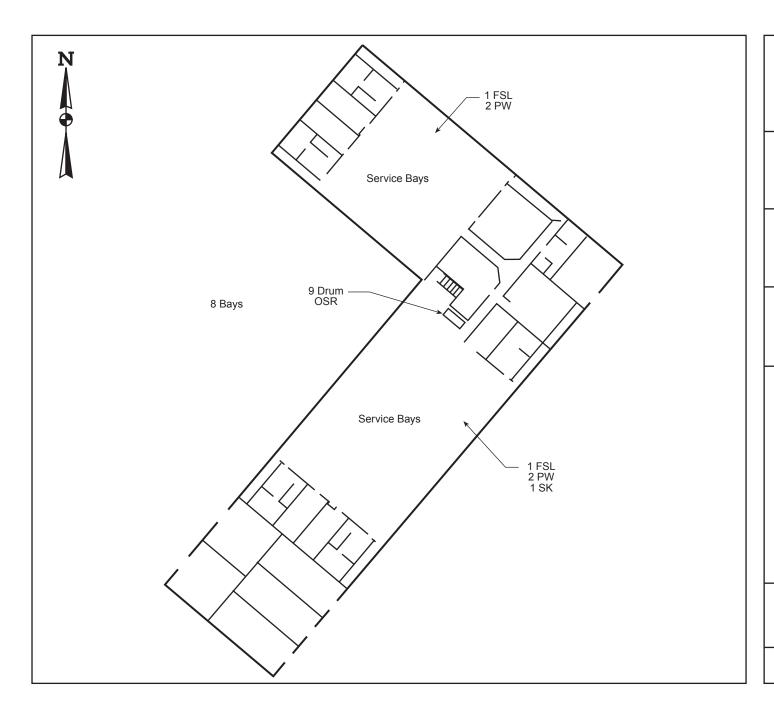
Direction of Flow

Sandbag Containment

······ Underground Piping

Overhead Piping





Building 1882 3/29 ARTY Motor Pool Fort Carson, CO

Hazardous Materials Inventory

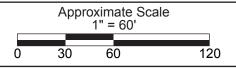
Storage Location Map

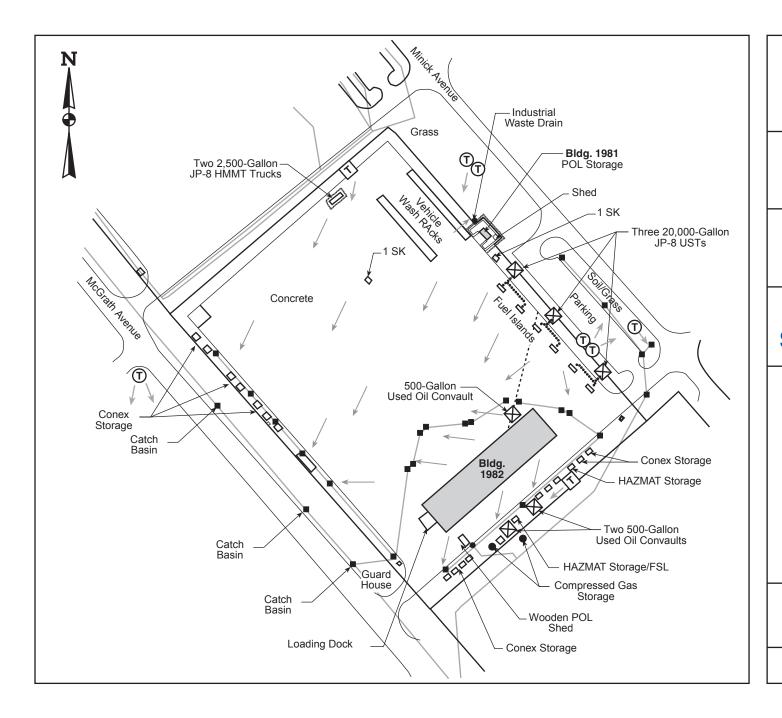


OSR Oil Storage Rack
PW Parts Washer

FSL Flammable Storage Locker

SK Spill Kit





Buildings 1981 and 1982 3rd BCT-ADA CO Motor Pool Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



FSL Flammable Storage Locker

SK Spill Kit

Tank Location

Pole-Mounted Transformer

Pad-Mounted Transformer

Storm Drain

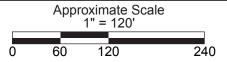
Drainage Ditch/Culvert

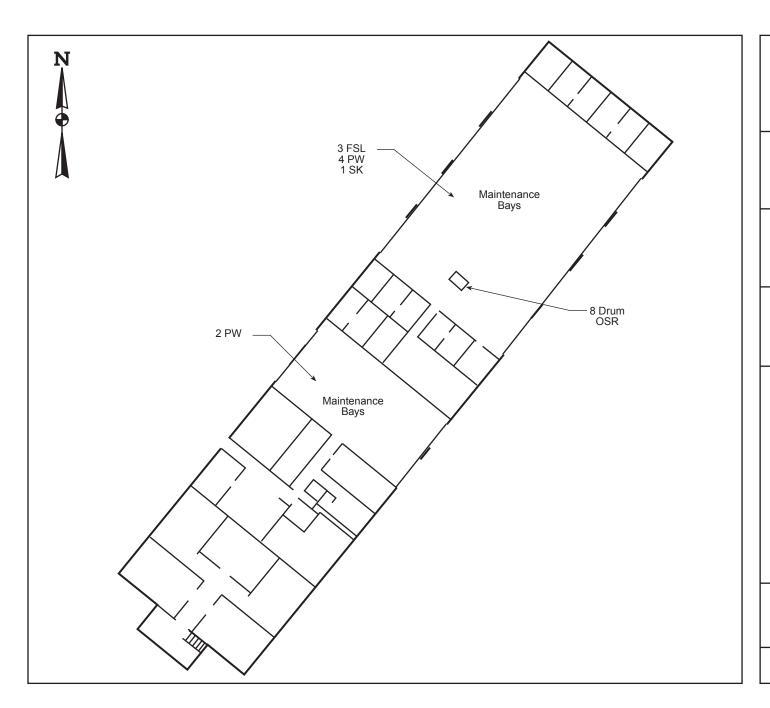
Storm Sewer Line

Direction of Flow

Sandbag Containment

Underground Piping





Building 1982 3rd BCT-ADA CO Motor Pool Fort Carson, CO

Hazardous Materials Inventory

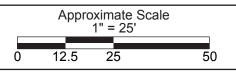
Storage Location Map

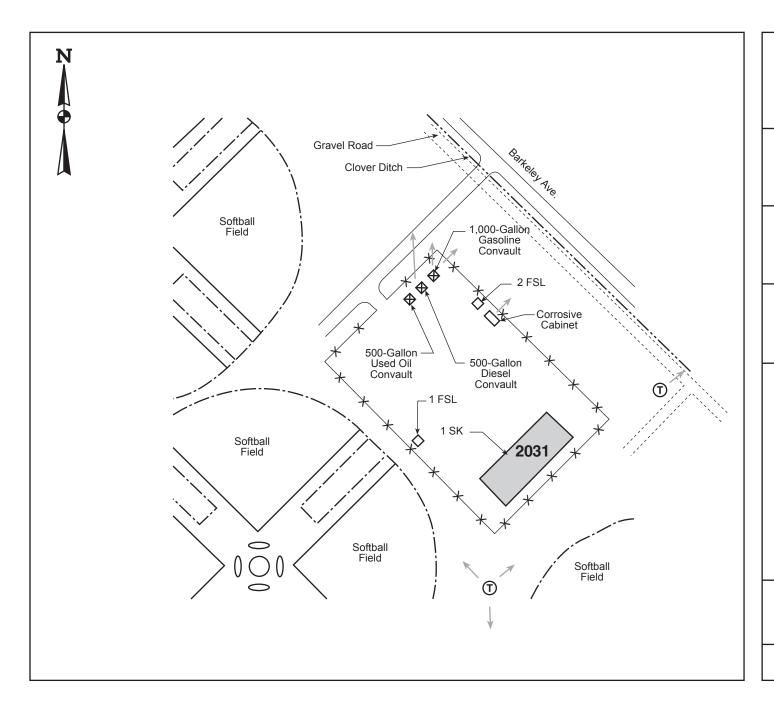


OSR Oil Storage Rack PW Parts Washer

FSL Flammable Storage Locker

SK Spill Kit





Building 2031 General Purpose Maintenance Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw[™] Shaw Environmental, Inc.

FSL Flammable Storage Locker

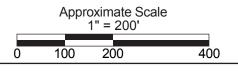
SK Spill Kit

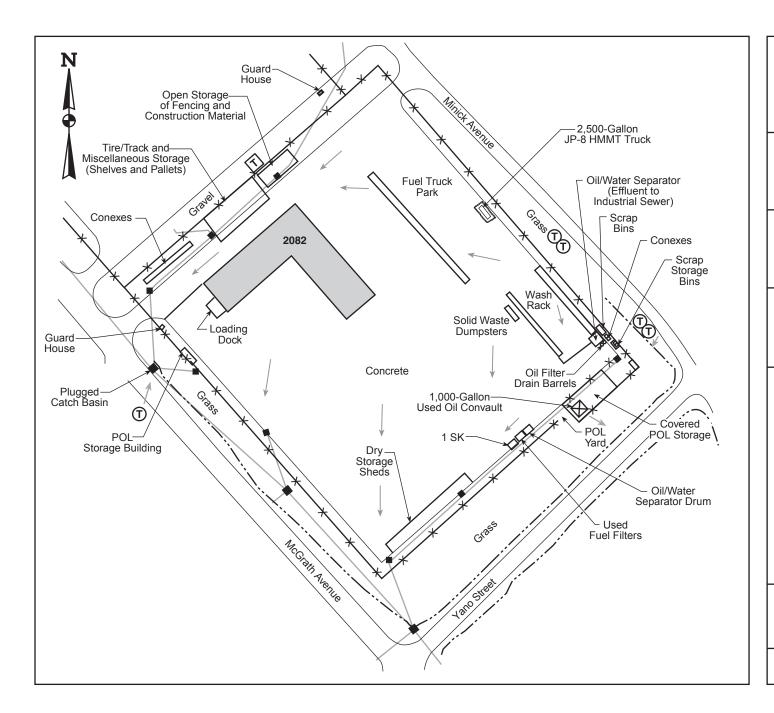
X X Fence

T Pole-Mounted Transformer

—--- Drainage Ditch/Culvert

Direction of Flow





Building 2082 1/68 Armor Battalion Motor Pool Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

FSL Flammable Storage Locker

SK Spill Kit

X X Fence

T Pole-Mounted Transformer

T Pad-Mounted Transformer

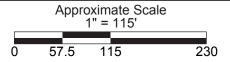
Storm Drain

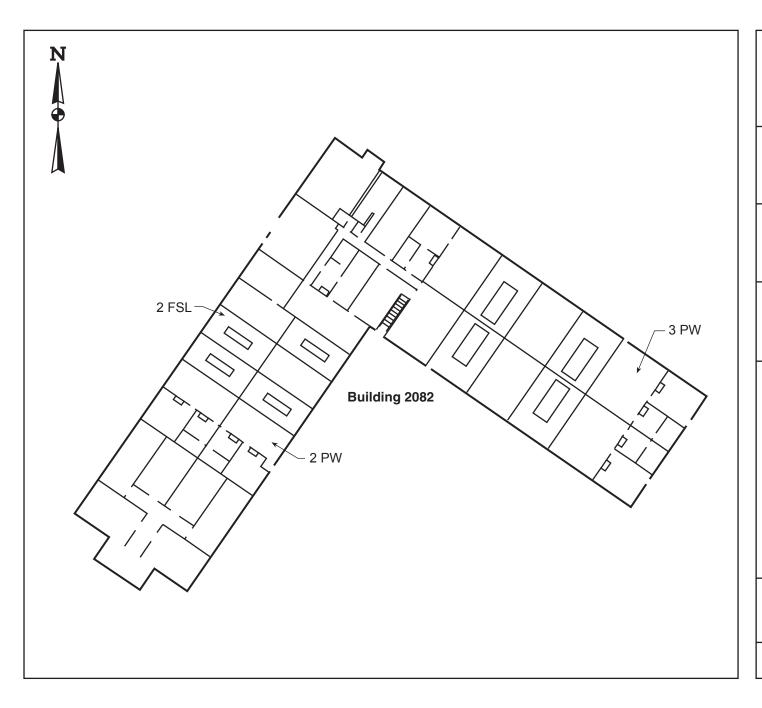
---- Drainage Ditch/Culvert

— Storm Sewer Line

Direction of Flow

Sandbag Containment





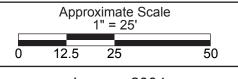
Building 2082 1/68 Armor Battalion Motor Pool Fort Carson, CO

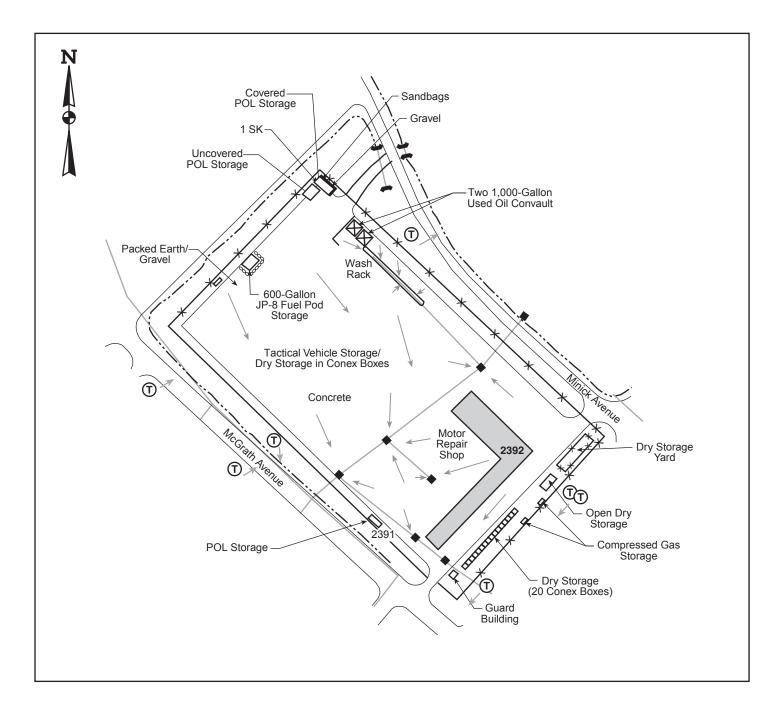
Hazardous Materials Inventory

Storage Location Map



PW Parts Washer FSL Flammable Storage Locker





Building 2392 1/8 Infantry Battalion Motor Pool Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

SK Spill Kit

X X Fence

T Pole-Mounted Transformer

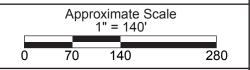
Storm Drain

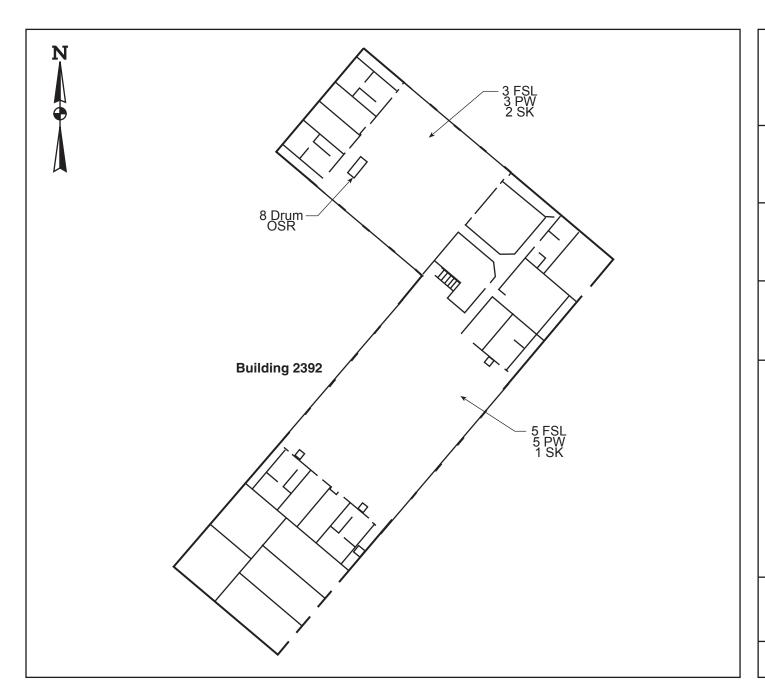
--- Drainage Ditch/Culvert

— Storm Sewer Line

Direction of Flow

Sandbag Containment





Building 2392 1/8 Infantry Battalion Motor Pool Fort Carson, CO

Hazardous Materials Inventory

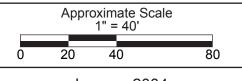
Storage Location Map

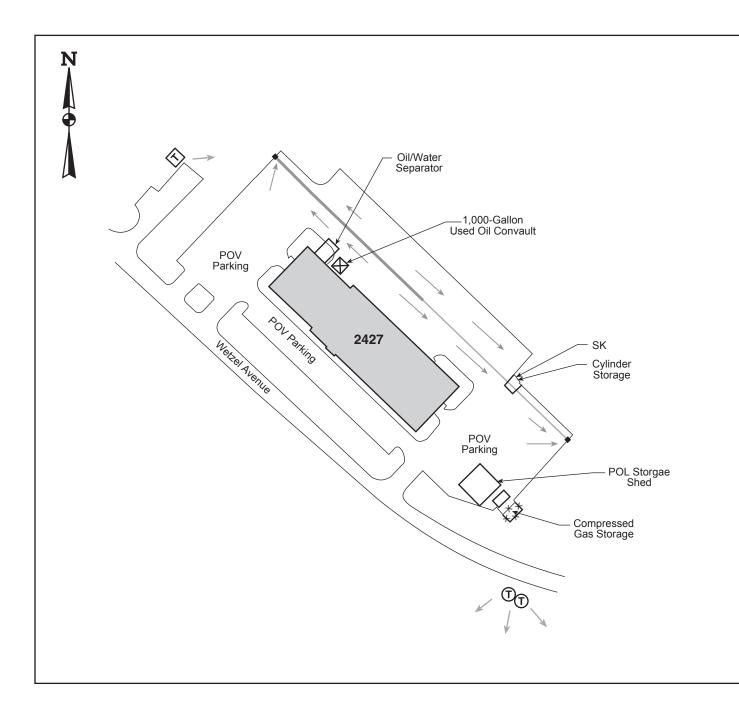


OSR Oil Storage Rack PW Parts Washer

FSL Flammable Storage Locker

SK Spill Kit





Building 2427 Auto Craft Shop Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



SK Spill Kit

X X Fence

Tank Location

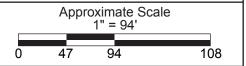
Pole-Mounted Transformer

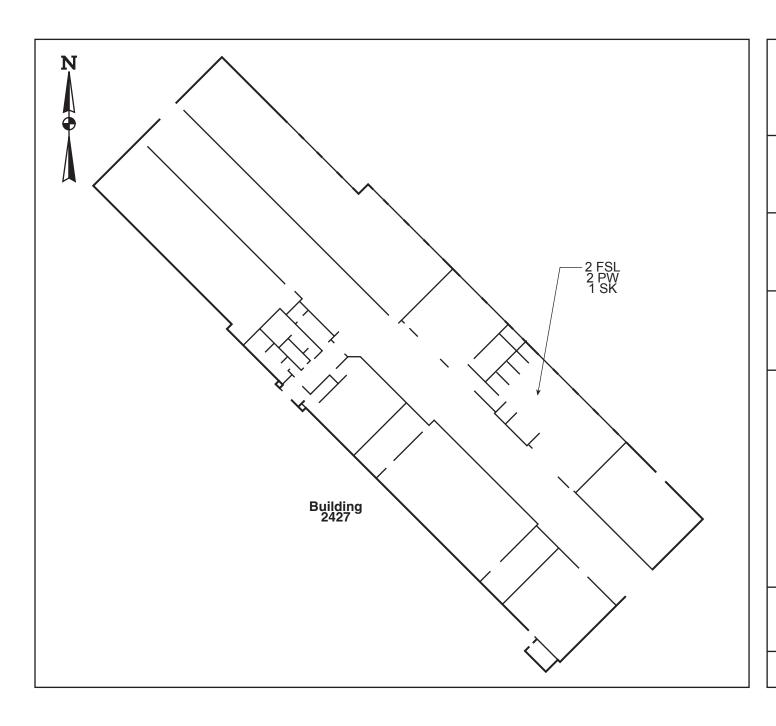
Pad-Mounted Transformer

Storm Drain

Storm Sewer Line

Direction of Flow





Building 2427 Auto Craft Shop Fort Carson, CO

Hazardous Materials Inventory

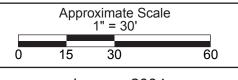
Storage Location Map

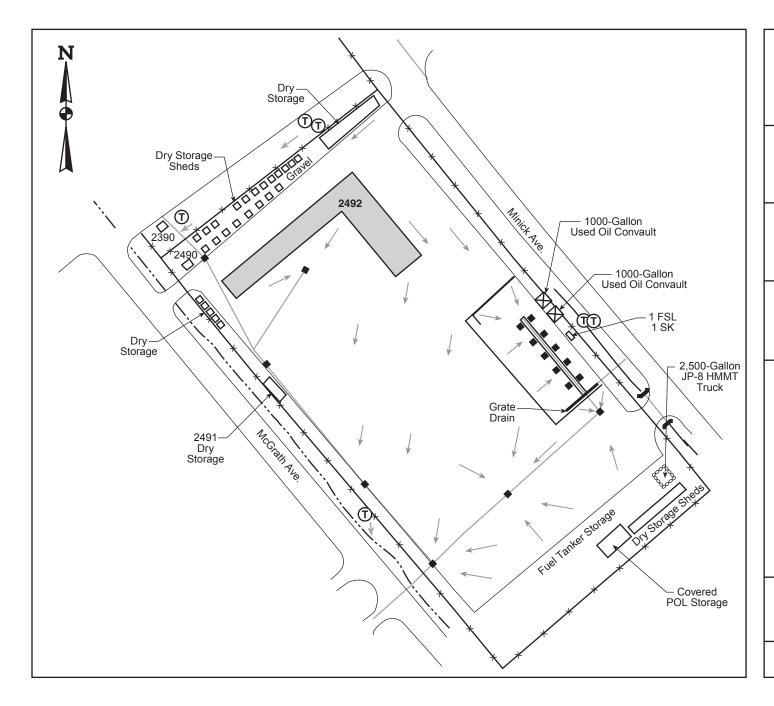


PW Parts Washer

FSL Flammable Storage Locker

SK Spill Kit





Building 2492 1/12 Infantry Task Force Motor Pool Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



FSL Flammable Storage Locker

SK Spill Kit

X X Fence

Tank Location

Pole-Mounted Transformer

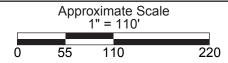
Storm Drain

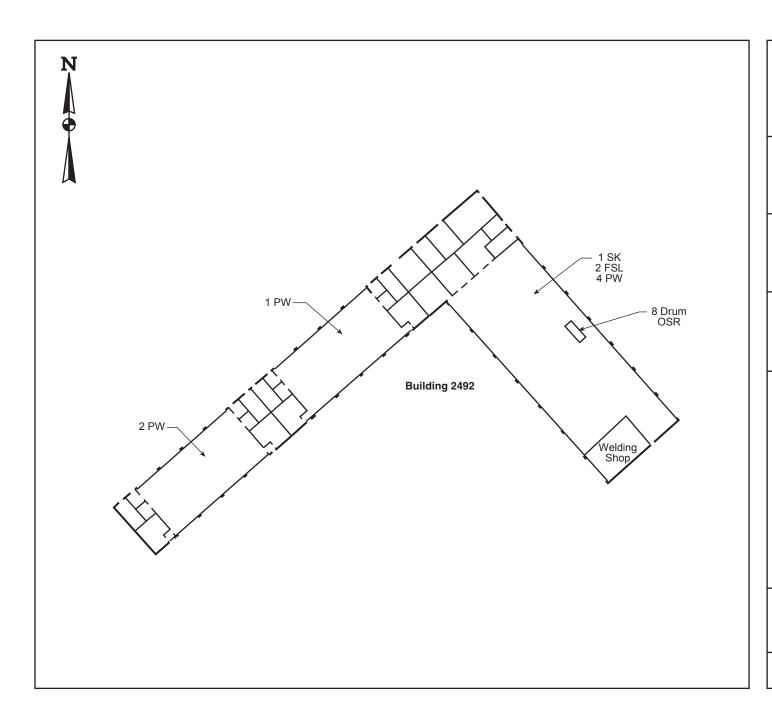
--- Drainage Ditch/Culvert

Storm Sewer Line

Direction of Flow

Sandbag Containment





Building 2492 1/12 Infantry Task Force Motor Pool Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map

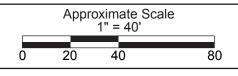


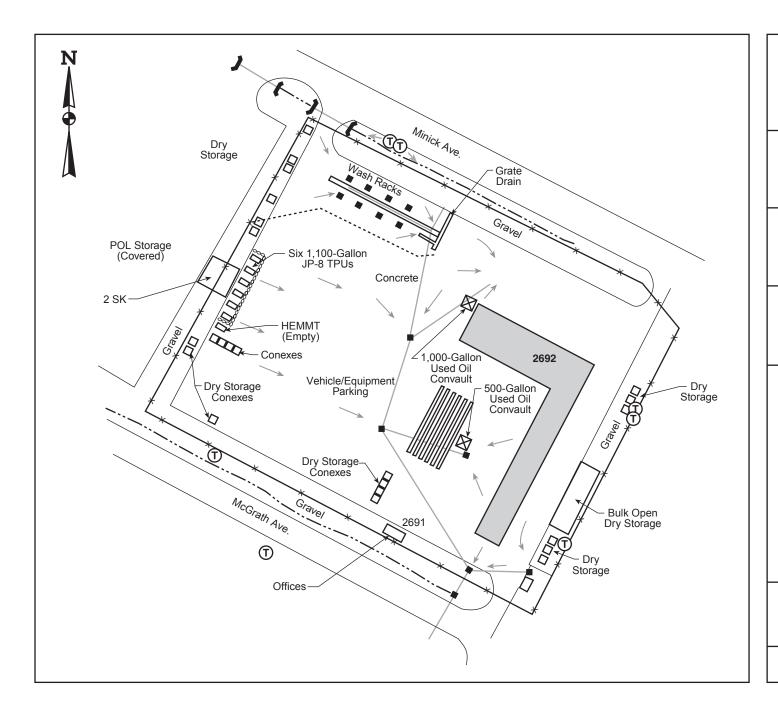
Oriaw Environmental, in

OSR Oil Storage Rack PW Parts Washer

FSL Flammable Storage Locker

SK Spill Kit





Building 2692 RHHT/3rd ACR Motor Pool Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw[™] Shaw Environmental, Inc.

SK Spill Kit

X X Fence

Pole-Mounted Transformer

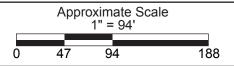
Storm Drain

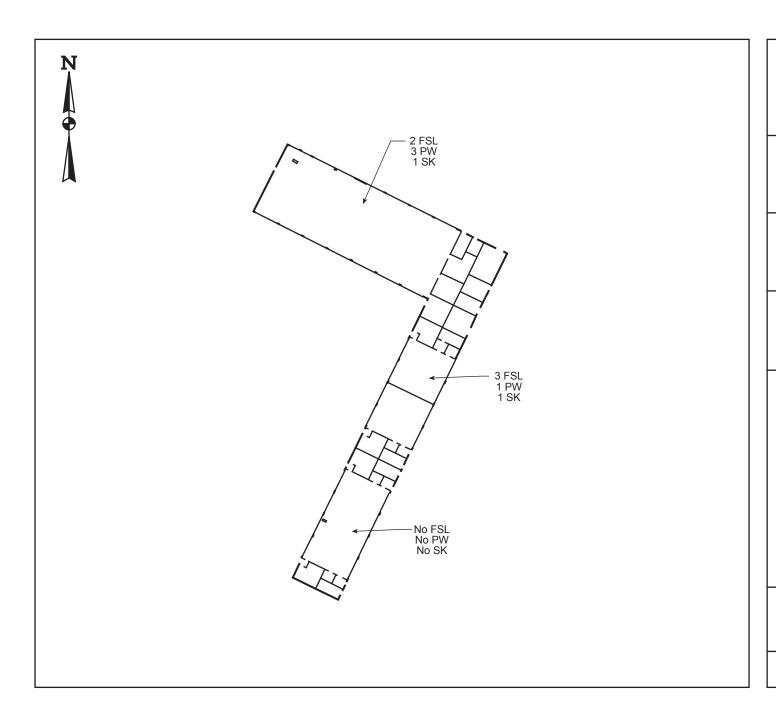
--- Drainage Ditch/Culvert

Storm Sewer Line

Direction of Flow

Sandbag Containment





Building 2692 RHHT/3rd ACR Motor Pool Fort Carson, CO

Hazardous Materials Inventory

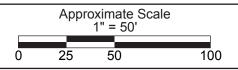
Storage Location Map

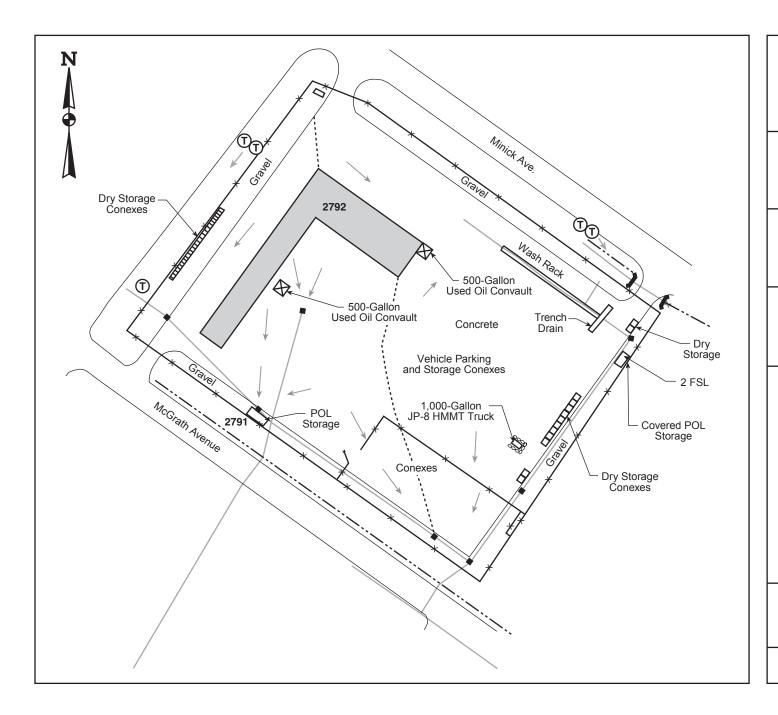


PW Parts Washer

FSL Flammable Storage Locker

SK Spill Kit





Building 2792 RHHT/3 ACR Motor Pool Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



FSL Flammable Storage Locker

X X Fence

X **Tank Location**

Pole-Mounted Transformer

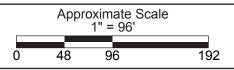
Storm Drain

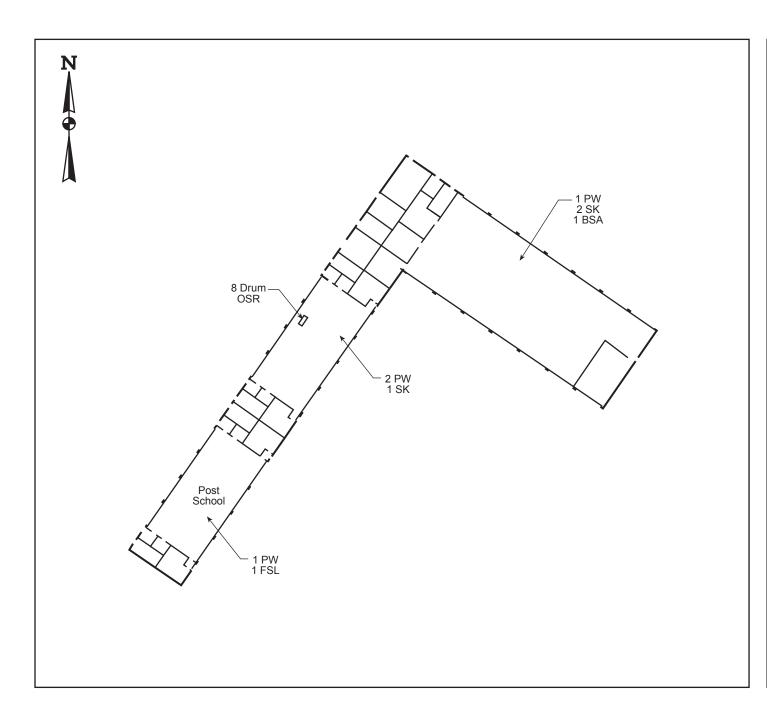
Drainage Ditch/Culvert

Storm Sewer Line

Direction of Flow

Sandbag Containment





Building 2792 RHHT/3rd ACR Vehicle Maintenance Shop Fort Carson, CO

Hazardous Materials Inventory

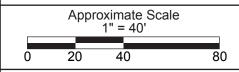
Storage Location Map

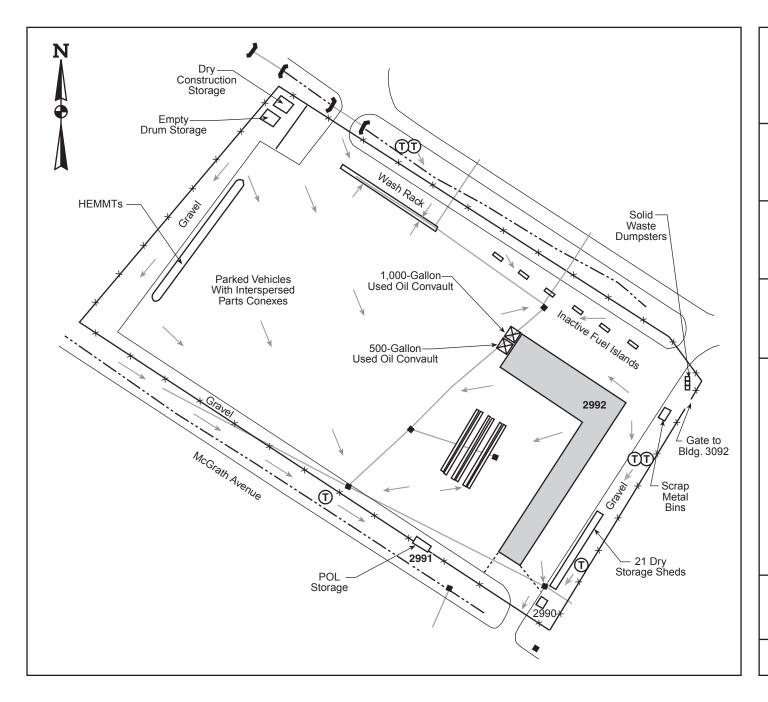


BSA Battery Storage Area OSR Oil Storage Rack PW Parts Washer

FSL Flammable Storage Locker

SK Spill Kit





Building 2992 1/3 ACR Vehicle Maintenance Shop Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

X X Fence

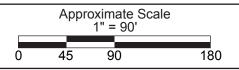
(T) Pole-Mounted Transformer

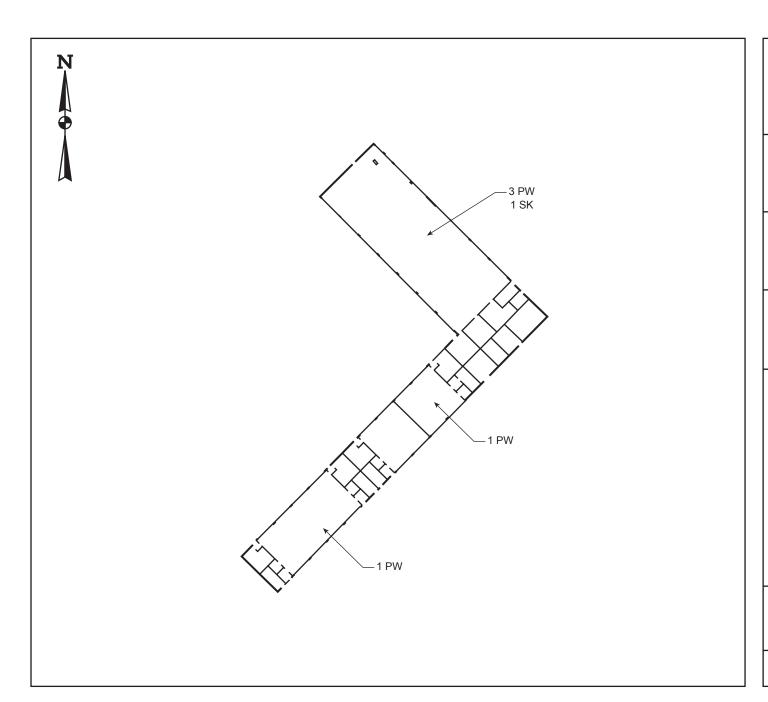
Storm Drain

--- Drainage Ditch/Culvert

—— Storm Sewer Line

Direction of Flow





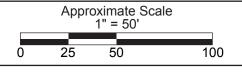
Building 2992 1/3 ACR Vehicle Maintenance Shop Fort Carson, CO

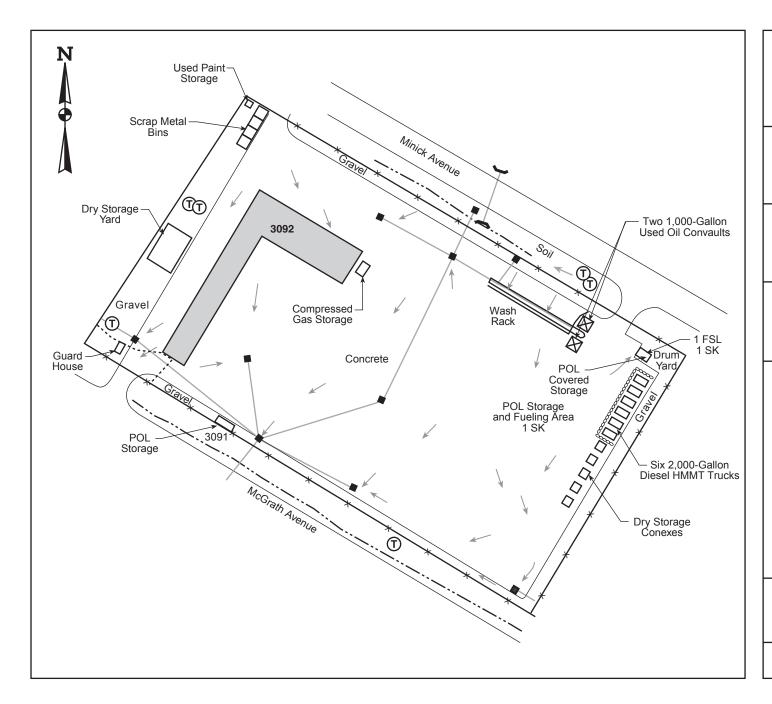
Hazardous Materials Inventory

Storage Location Map



PW Parts Washer SK Spill Kit





Building 3092 1/3 ACR Motor Pool Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

FSL Flammable Storage Locker

SK Spill Kit

X X Fence

T Pole-Mounted Transformer

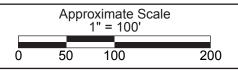
Storm Drain

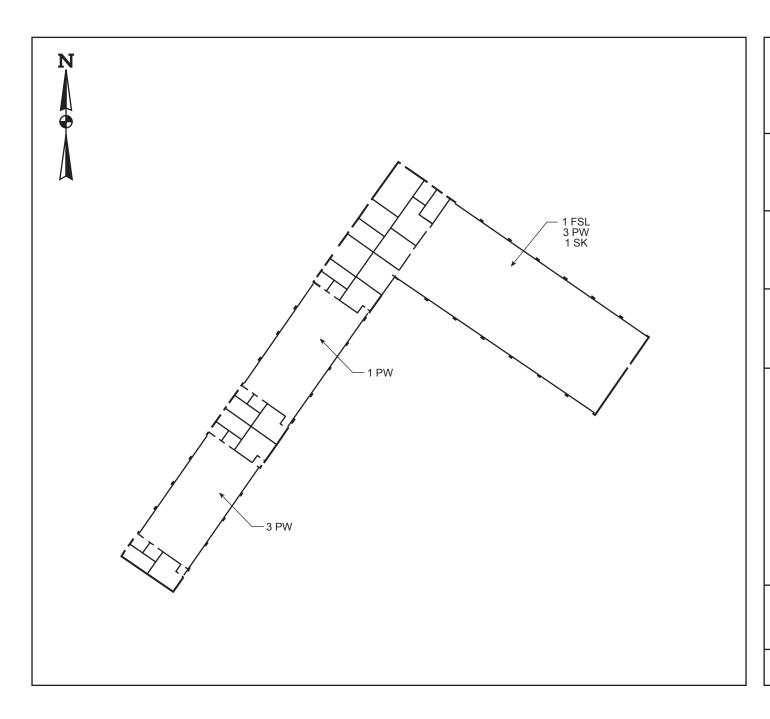
--- Drainage Ditch/Culvert

— Storm Sewer Line

Direction of Flow

Sandbag Containment





Building 3092 1/3 ACR Motor Pool Fort Carson, CO

Hazardous Materials Inventory

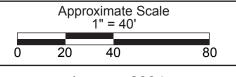
Storage Location Map

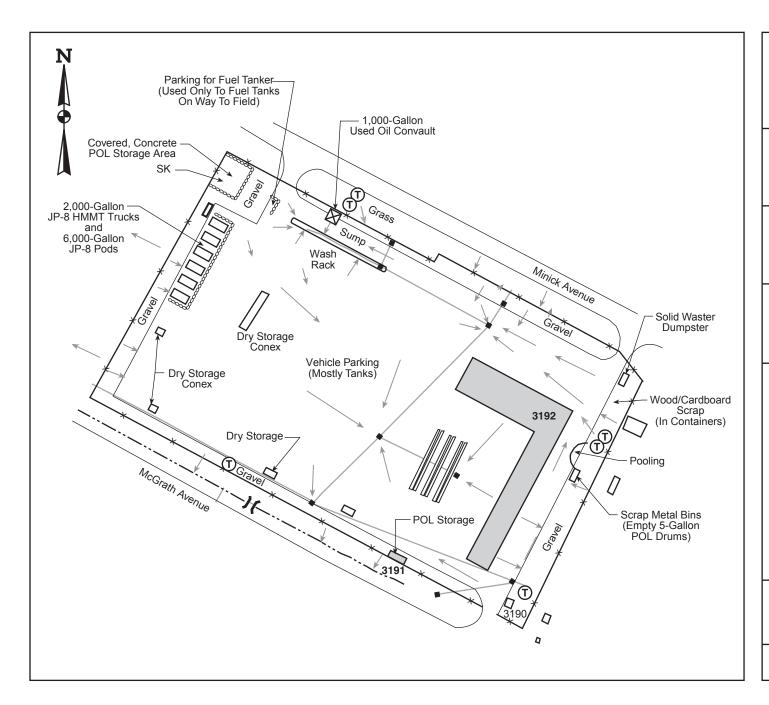


PW Parts Washer

FSL Flammable Storage Locker

SK Spill Kit





Building 3191 and 3192 2/3rd ACR Motor Pool Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

SK Spill Kit

X X Fence

Pole-Mounted Transformer

Storm Drain

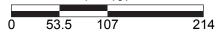
--- Drainage Ditch/Culvert

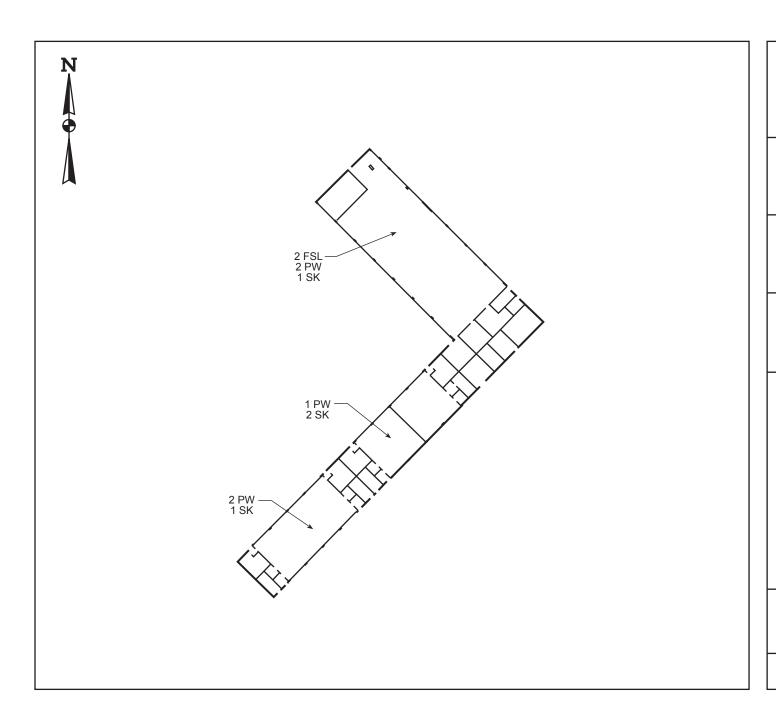
— Storm Sewer Line

Direction of Flow

Sandbag Containment

Approximate Scale 1" = 107'





Building 3192 2/3rd ACR Motor Pool Fort Carson, CO

Hazardous Materials Inventory

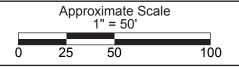
Storage Location Map

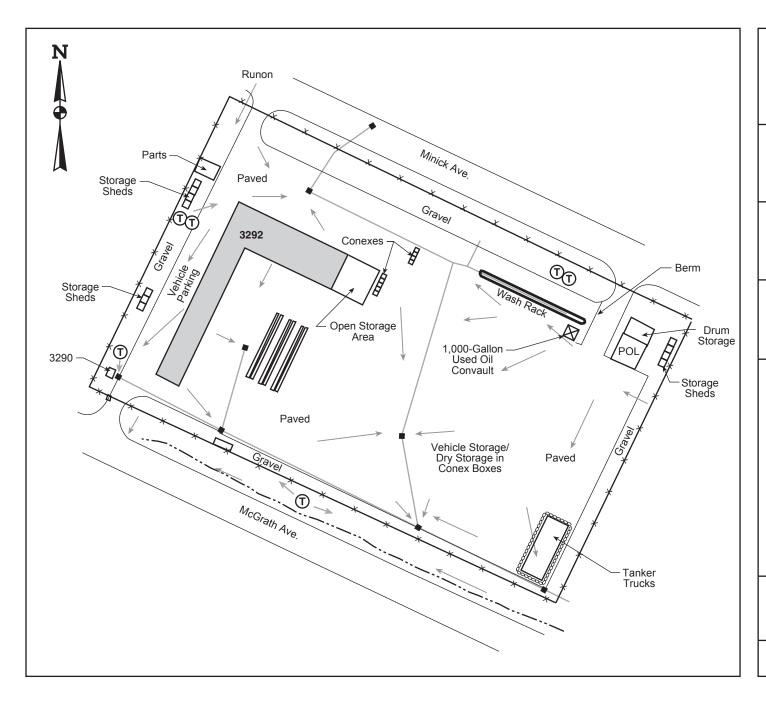


PW Parts Washer

FSL Flammable Storage Locker

SK Spill Kit





Building 3292 2/3rd ACR Motor Pool Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw[™] Shaw Environmental, Inc.

SK Spill Kit

X X Fence

▼ Tank Location

Pole-Mounted Transformer

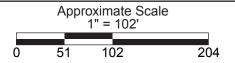
Storm Drain

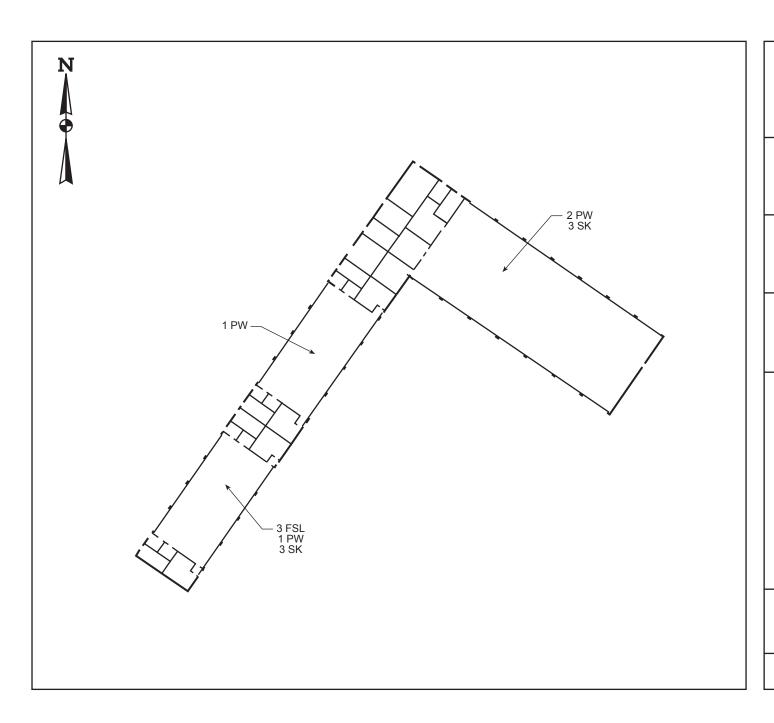
---- Drainage Ditch/Culvert

— Storm Sewer Line

Direction of Flow

Sandbag Containment





Building 3292 2/3rd ACR Motor Pool Fort Carson, CO

Hazardous Materials Inventory

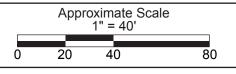
Storage Location Map

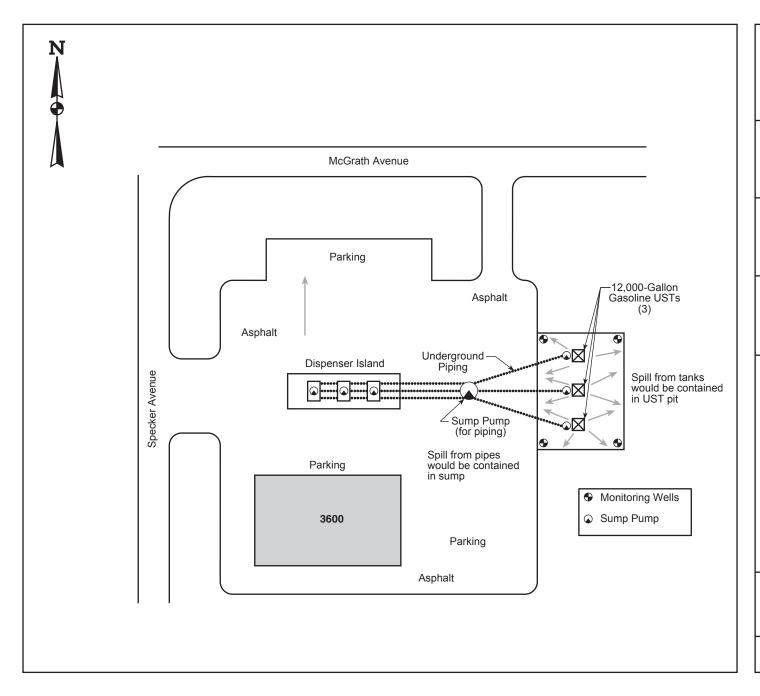


PW Parts Washer

FSL Flammable Storage Locker

SK Spill Kit





Building 3600 AAFES Fuel Station Fort Carson, CO

Hazardous Materials Inventory

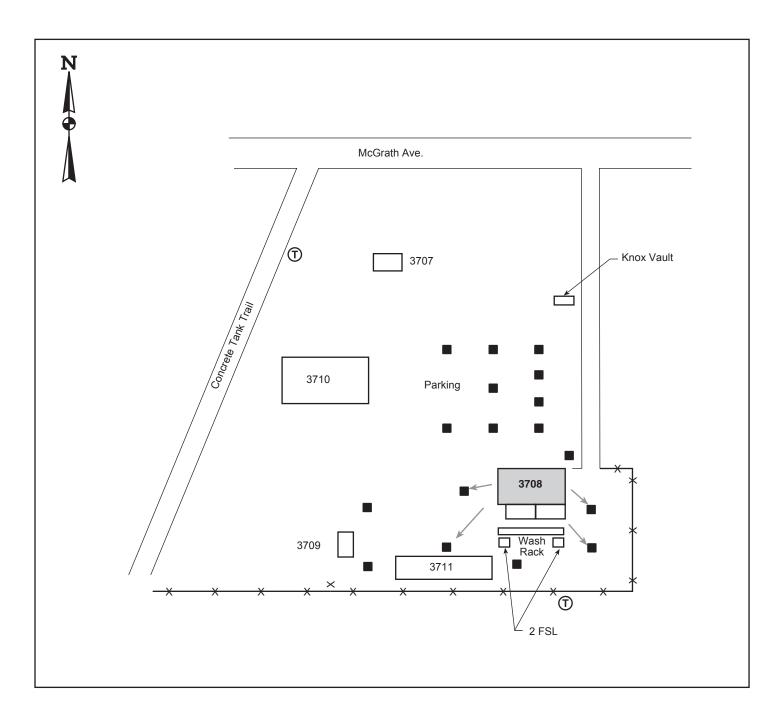
Storage Location Map



Direction of Flow

----- Underground Piping

Not to Scale



Building 3708 Entomology Facility Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map

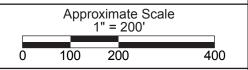


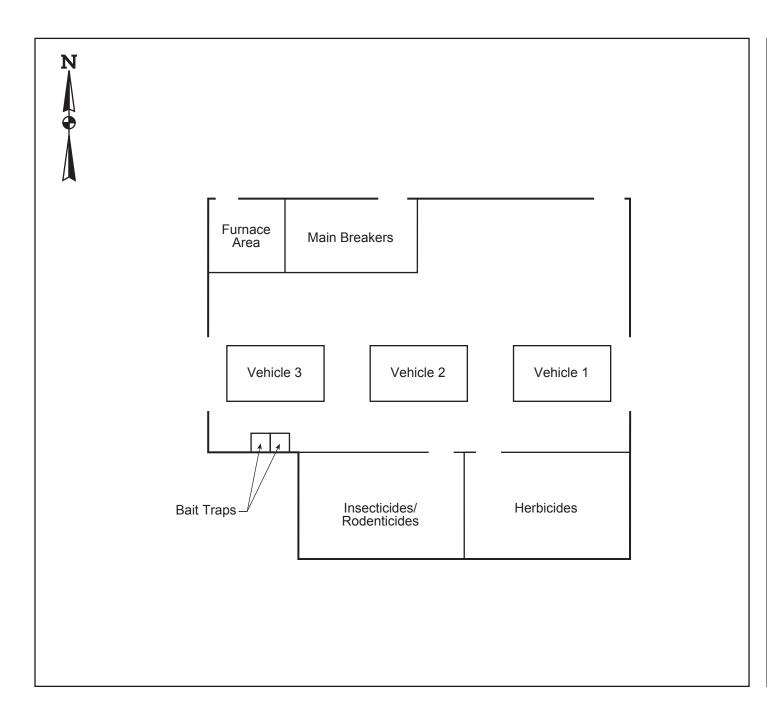
FSL Flammable Storage Locker

X X Fence

Pole-Mounted Transformer

Storm Drain



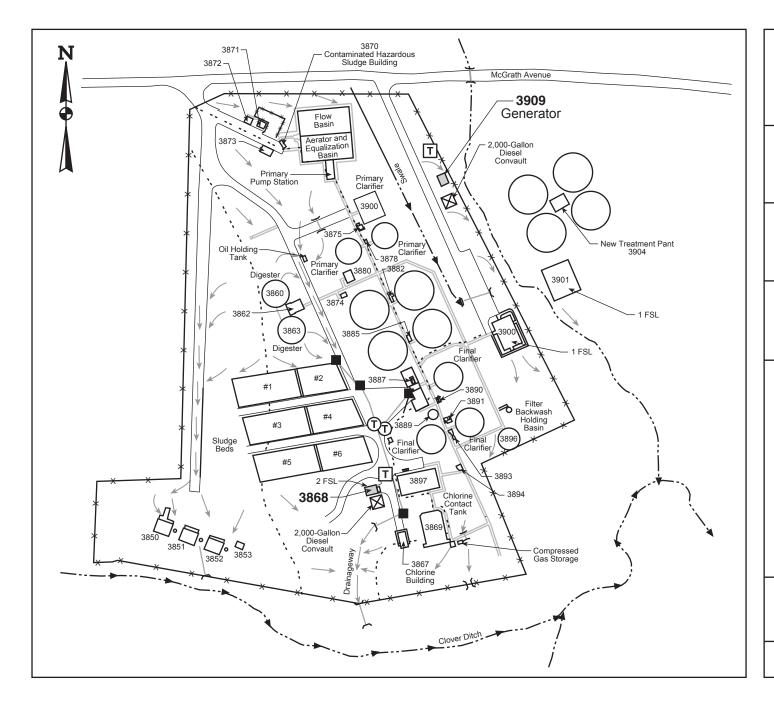


Building 3708 Entomology Facility Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map





Buildings 3868 and 3909 Sewage Treatment Plant Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

FSL Flammable Storage Locker

X X Fence

T Pole-Mounted Transformer

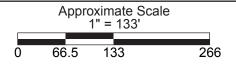
Pad-Mounted Transformer

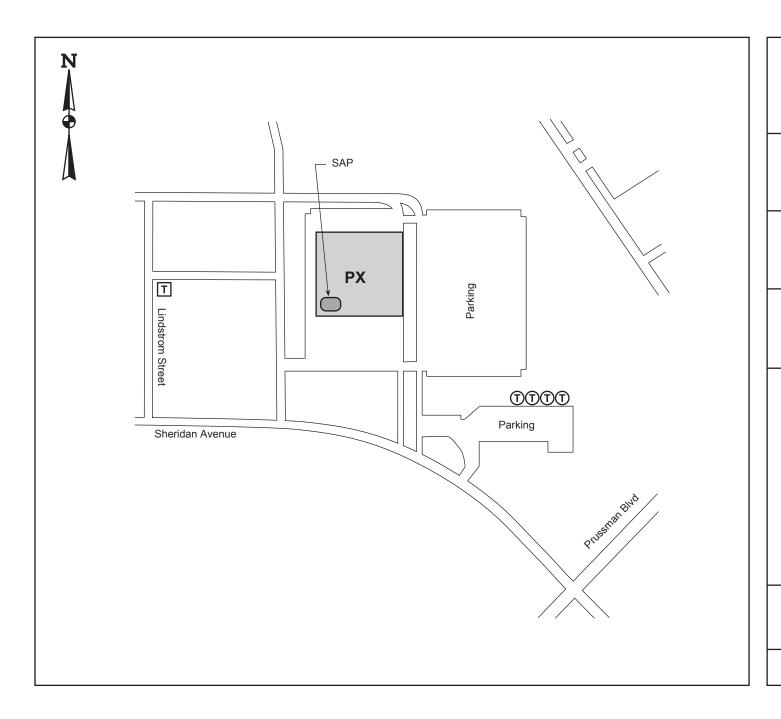
Storm Drain

--- Drainage Ditch/Culvert

Storm Sewer Line

Direction of Flow





Building 6110 PX Fort Carson, CO

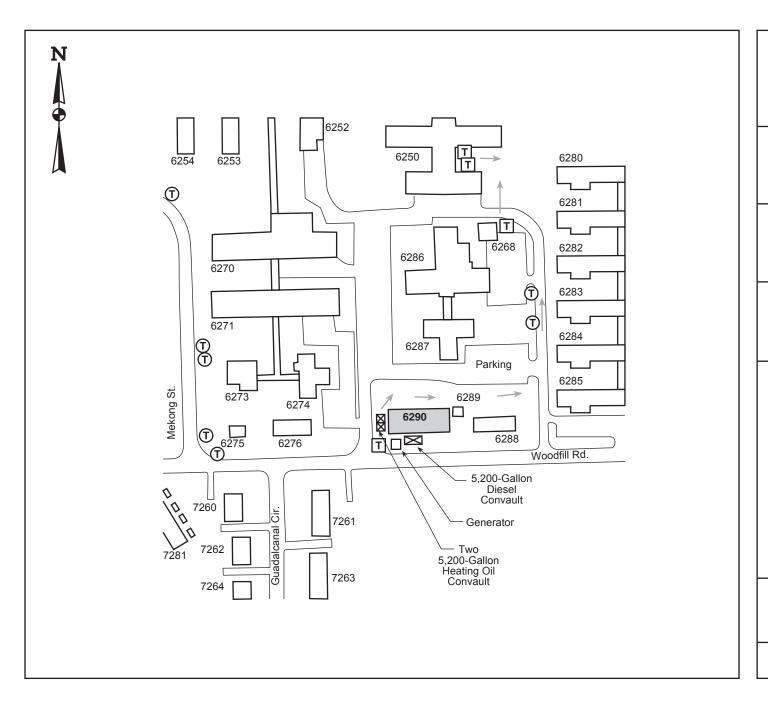
Hazardous Materials Inventory

Storage Location Map



- Pole-Mounted Transformer
 - Pad-Mounted Transformer

Satellite Accumulation Point



Building 6290 Heat Plant Building Fort Carson, CO

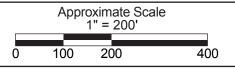
Hazardous Materials Inventory

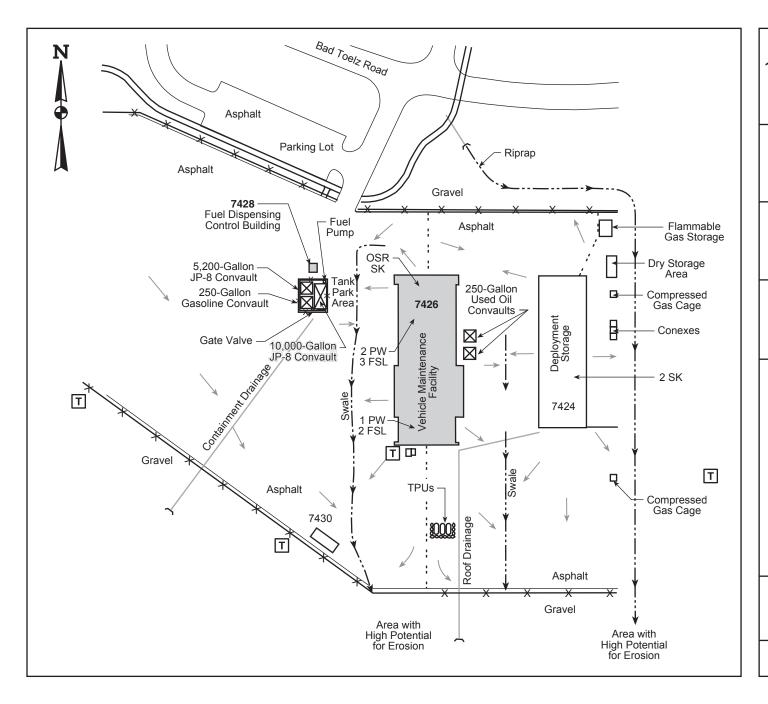
Storage Location Map



Shaw™ Shaw Environmental, Inc.

- - Pole-Mounted Transformer
- Pad-Mounted Transformer
- Direction of Flow





Buildings 7426 and 7428 10th Special Forces Complex Motor Pool Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

OSR Oil Storage Rack

PW Parts Washer

FSL Flammable Storage Locker

SK Spill Kit

X X Fence

T Pole-Mounted Transformer

T Pad-Mounted Transformer

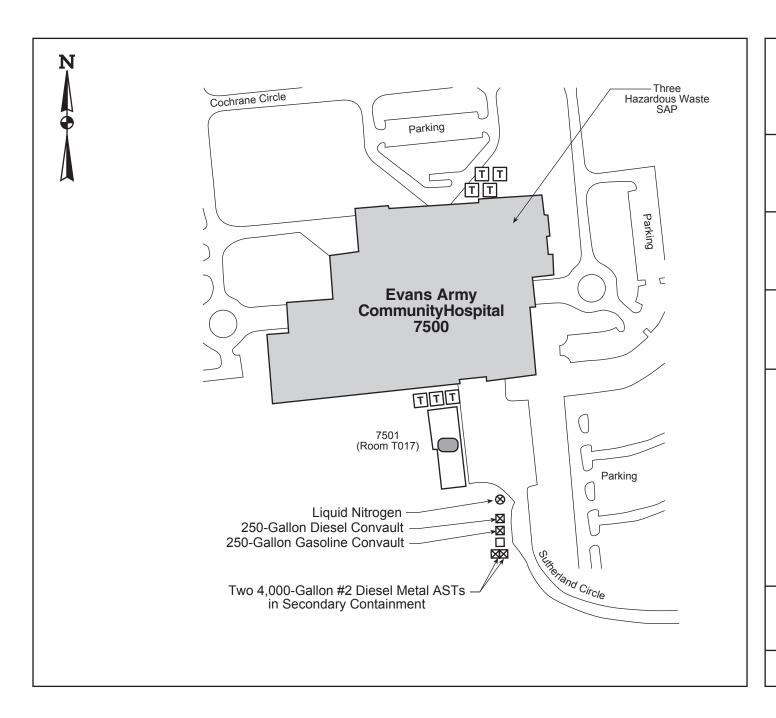
--- Drainage Ditch/Culvert

Storm Sewer Line

Direction of Flow

Sandbag Containment

Approximate Scale 1" = 75' 37.5 75 150



Building 7500 Evans Army Community Hospital Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map

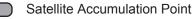


Shaw™ Shaw Environmental, Inc.

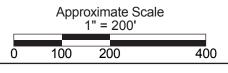
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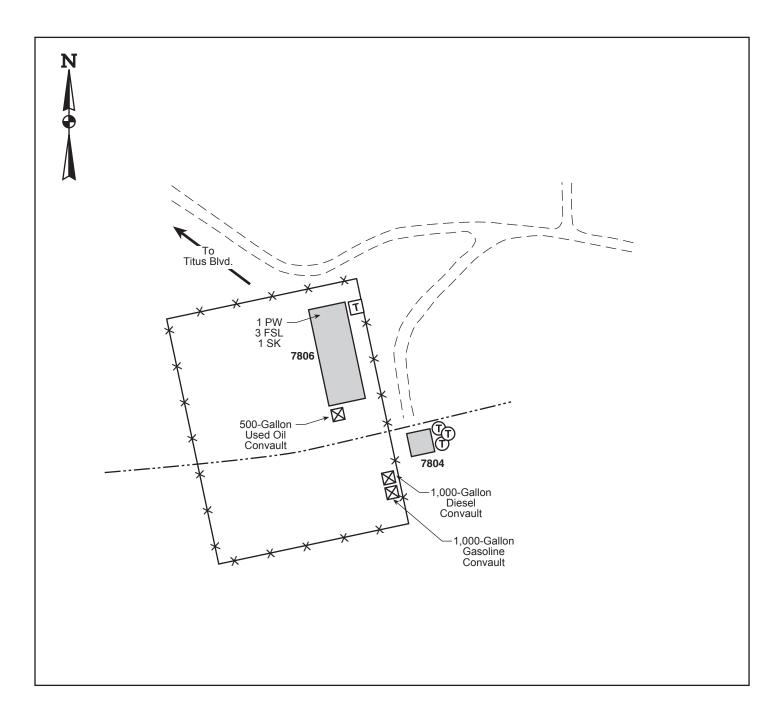
Tank Location

Pad-Mounted Transformer



Room 213 Room 1586 Warehouse





Building 7804/7806 Golf Course Maintenance Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

PW Parts Washer

FSL Flammable Storage Locker

SK Spill Kit

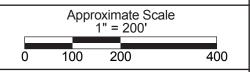
X X Fence

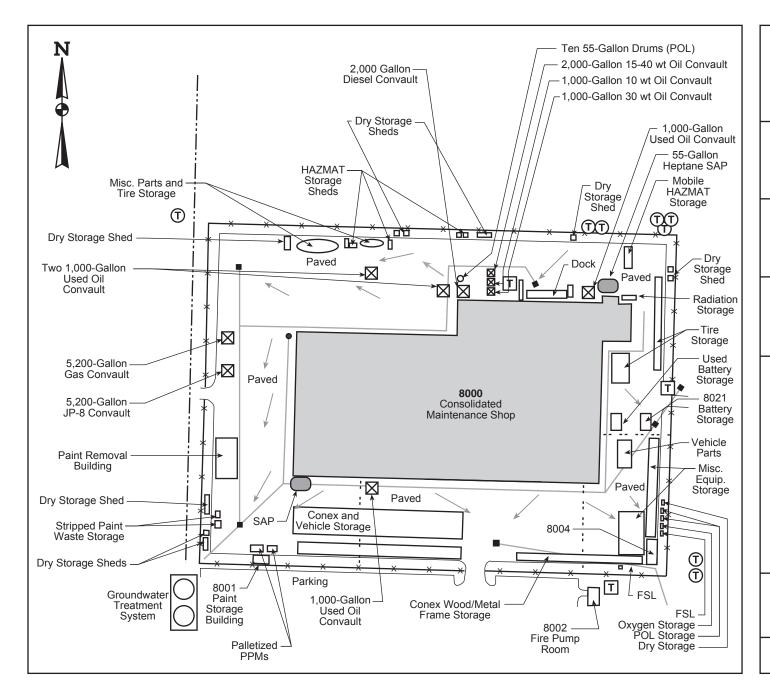
D Pole-Mounted Transformer

Pad-Mounted Transformer

Storm Drain

— --- Drainage Ditch/Culvert





Building 8000 DOL Consolidated Maintenance Fort Carson, CO

Hazardous Materials Inventory

Storage **Location Map**



Shaw™ Shaw Environmental, Inc.

Parts Washer PW

Flammable Storage Locker

SK Spill Kit

X X Fence

X **Tank Location**

(T) Pole-Mounted Transformer

T

Pad-Mounted Transformer

Storm Drain

Drainage Ditch/Culvert

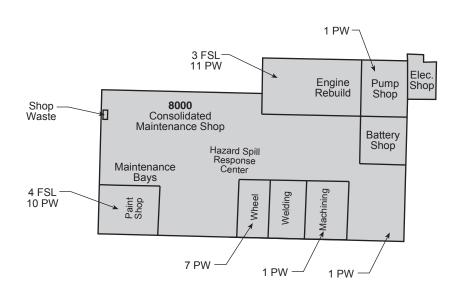
Storm Sewer Line

Direction of Flow

Satellite Accumulation Point

Approximate Scale 1" = 133' 66.5 133 266





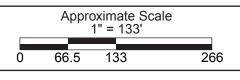
Building 8000 DOL Consolidated Maintenance Fort Carson, CO

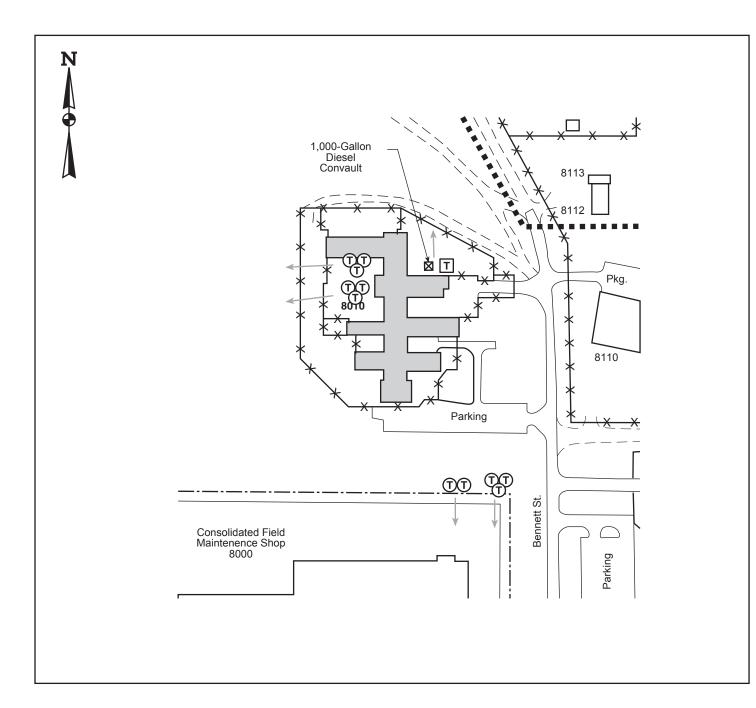
Hazardous Materials Inventory

Storage Location Map



PW Parts Washer
FSL Flammable Storage Locker





Building 8010 Colorado Youth Challenge Corps Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

FSL Flammable Storage Locker

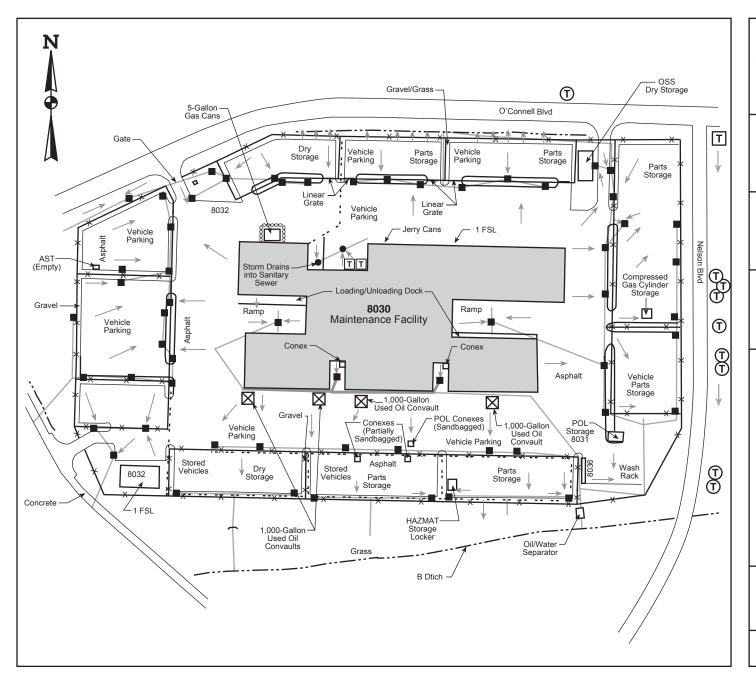
X X Fence

Pole-Mounted Transformer

Pad-Mounted Transformer

---- Drainage Ditch/Culvert

Direction of Flow



Building 8030 Division Maintenance Facility Fort Carson, CO

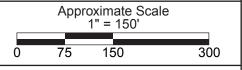
Hazardous Materials Inventory

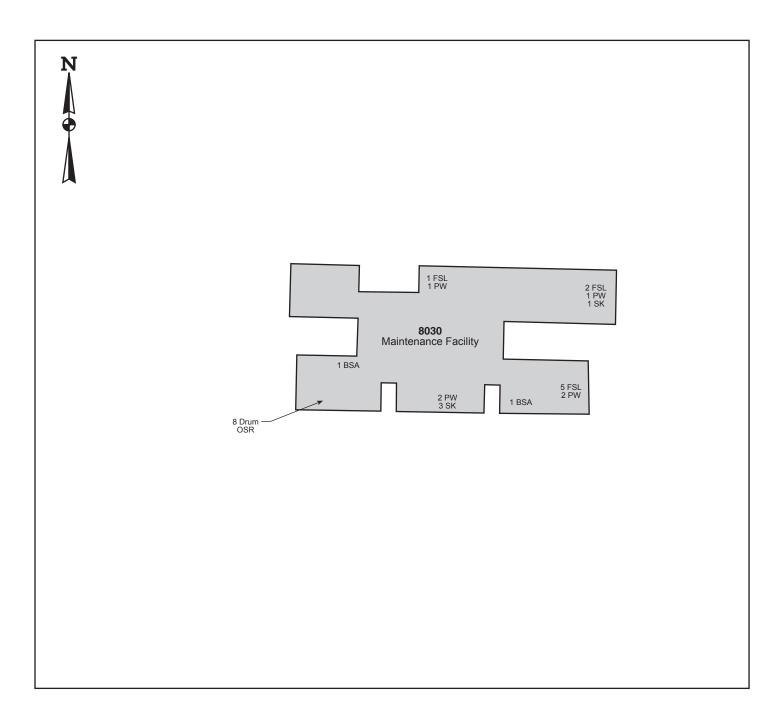
Storage Location Map



Shaw™ Shaw Environmental, Inc.

- FSL Flammable Storage Locker
- X X Fence
- - Pole-Mounted Transformer
- T Pad-Mounted Transformer
- Storm Drain
 - --- Drainage Ditch/Culvert
- Storm Sewer Line
- Direction of Flow
- Sandbag Containment





Building 8030 Division Maintenance Facility Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map

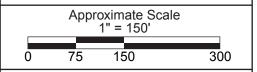


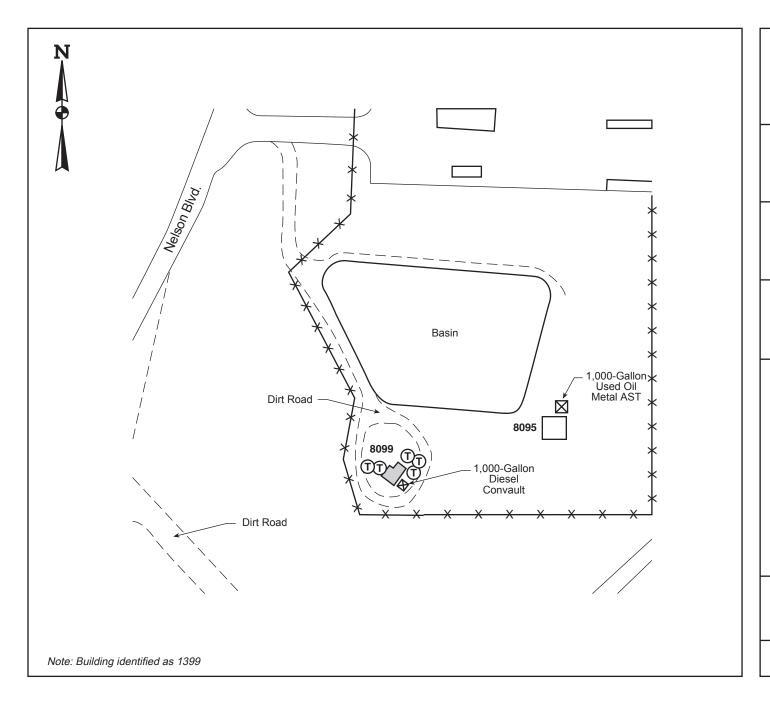
BSA Battery Storage Area OSR Oil Storage Rack

PW Parts Washer

FSL Flammable Storage Locker

SK Spill Kit





Building 8099 Pump Station Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



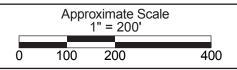
Shaw™ Shaw Environmental, Inc.

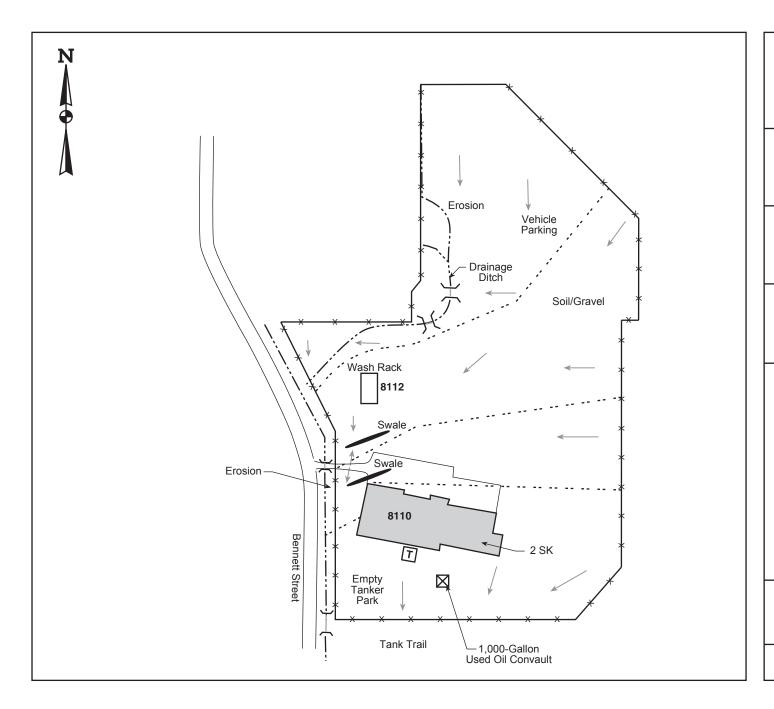
X X Fence

Pole-Mounted Transformer

---- Drainage Ditch/Culvert

Storm Sewer Line





Building 8110 MATES Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

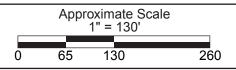
SK Spill Kit

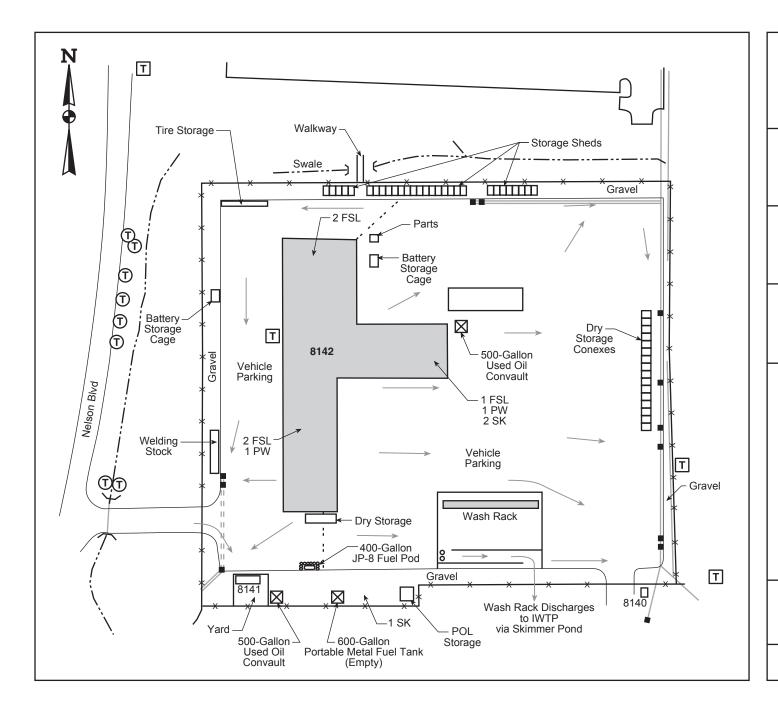
X X Fence

T Pad-Mounted Transformer

-- Drainage Ditch/Culvert

Direction of Flow





Building 8142 68th Support Battalion Motor Pool Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

PW Parts Washer

FSL Flammable Storage Locker

SK Spill Kit

X X Fence

(T) Pole-Mounted Transformer

T Pad-Mounted Transformer

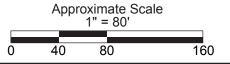
Storm Drain

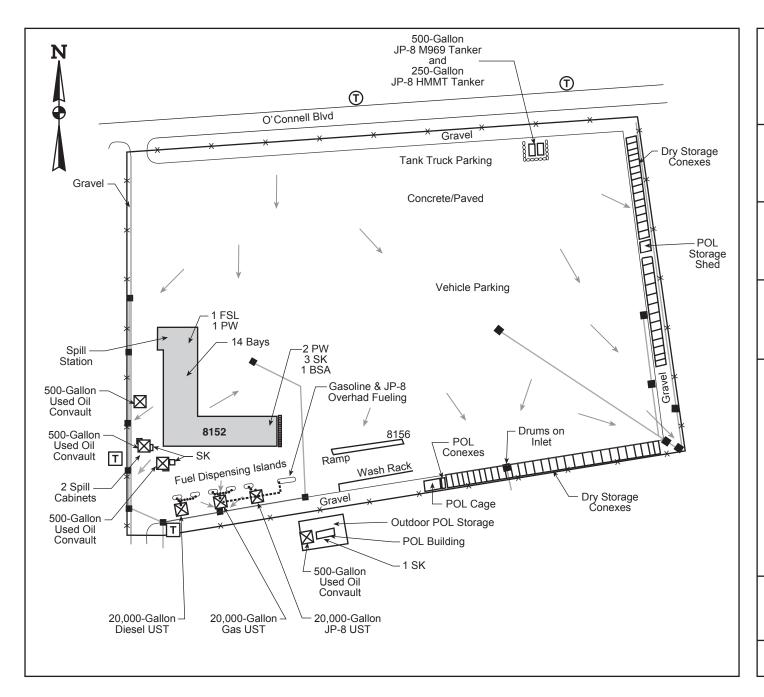
— --- Drainage Ditch/Culvert

— Storm Sewer Line

Direction of Flow

Sandbag Containment





Building 8152 68th Support Battalion Motor Pool Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



BSA Battery Storage Area

PW Parts Washer

SL Flammable Storage Locker

SK Spill Kit X Y Fence

Tank Location

Pole-Mounted Transformer

Pad-Mounted Transformer

Storm Drain

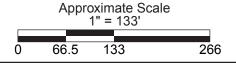
Storm Sewer Line

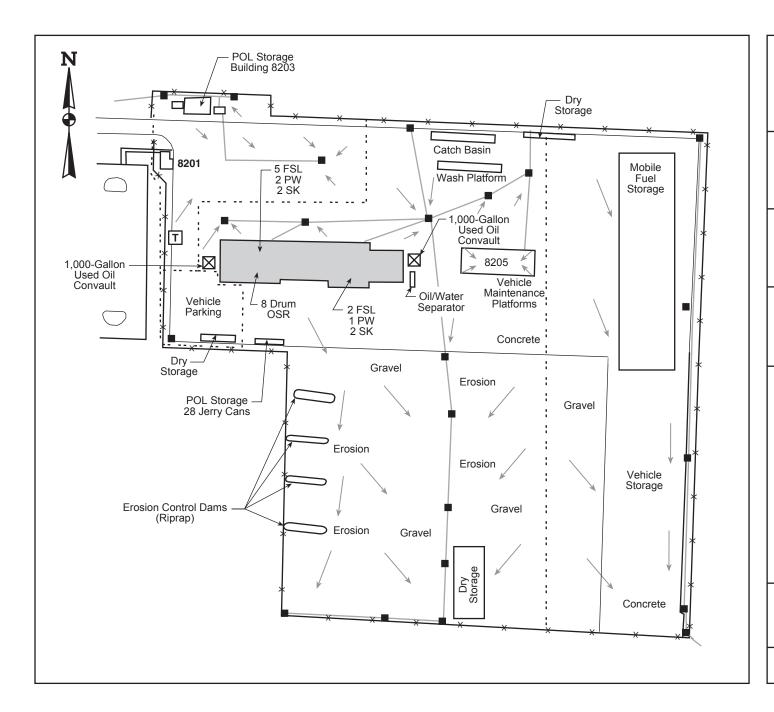
Direction of Flow

Sandbag Containment

Underground Piping

Overhead Piping





Building 8200 64th Forward Support Battalion Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

OSR Oil Storage Rack

PW Parts Washer

FSL Flammable Storage Locker

SK Spill Kit

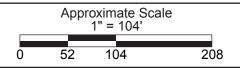
X X Fence

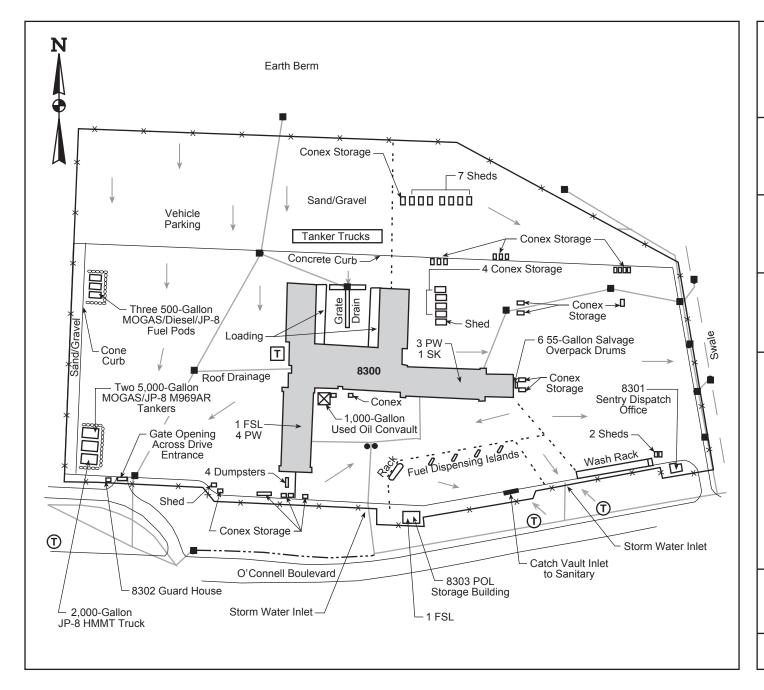
Pad-Mounted Transformer

Storm Drain

— Storm Sewer Line

Direction of Flow





Building 8300 3rd ACR Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

PW Parts Washer

FSL Flammable Storage Locker

SK Spill Kit

X X Fence

T) Pole-Mounted Transformer

Pad-Mounted Transformer

Storm Drain

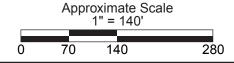
--- Drainage Ditch/Culvert

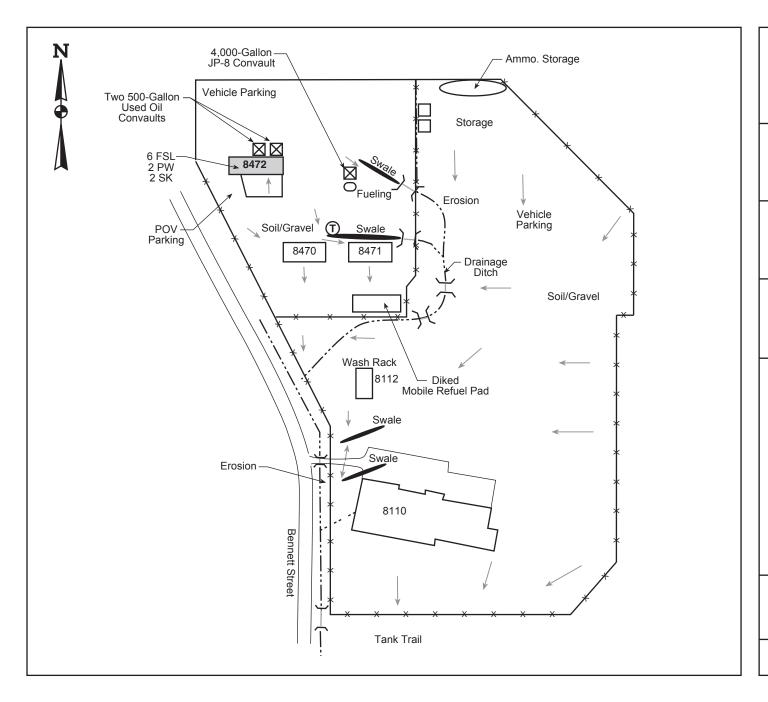
— Storm Sewer Line

Direction of Flow

Sandbag Containment

Sandbag Containment





Building 8472 Colorado National Guard Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

PW Parts Washer

FSL Flammable Storage Locker

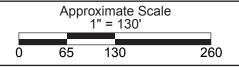
SK Spill Kit

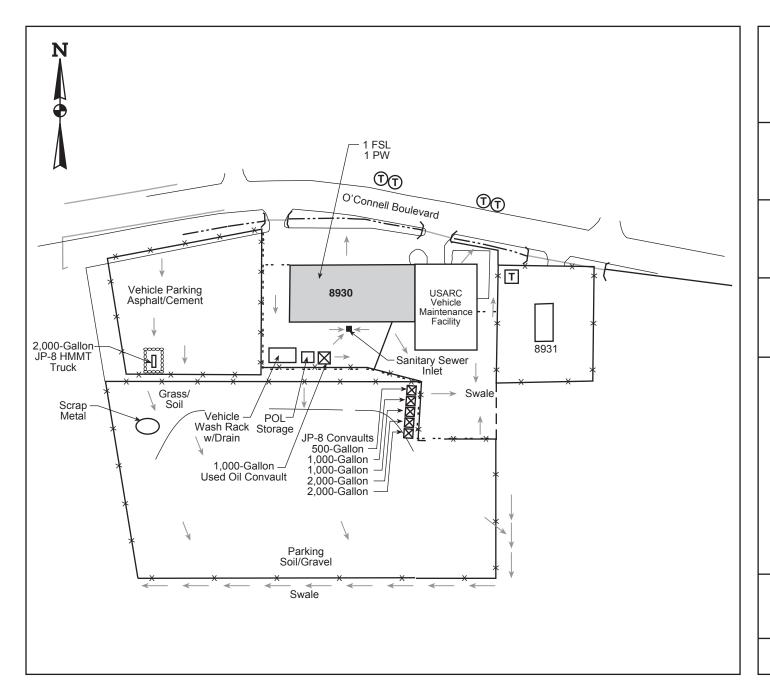
X X Fence

Pole-Mounted Transformer

Drainage Ditch/Culvert

Direction of Flow





Building 8930 ECS-Army Reserves Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

PW Parts Washer

FSL Flammable Storage Locker

X X Fence

Pole-Mounted Transformer

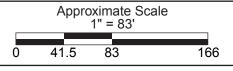
T Pad-Mounted Transformer

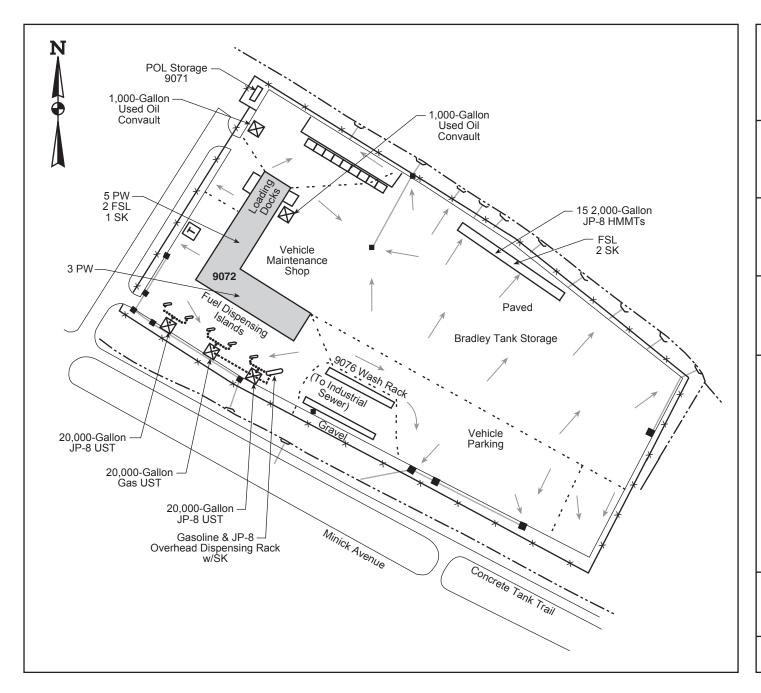
Storm Drain

--- Drainage Ditch/Culvert

Direction of Flow

Sandbag Containment





Building 9072 3/3 ACR Motor Pool Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

PW Parts Washer

FSL Flammable Storage Locker

SK Spill Kit

X X Fence

T Pad-Mounted Transformer

Storm Drain

— --- Drainage Ditch/Culvert

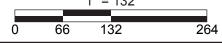
— Storm Sewer Line

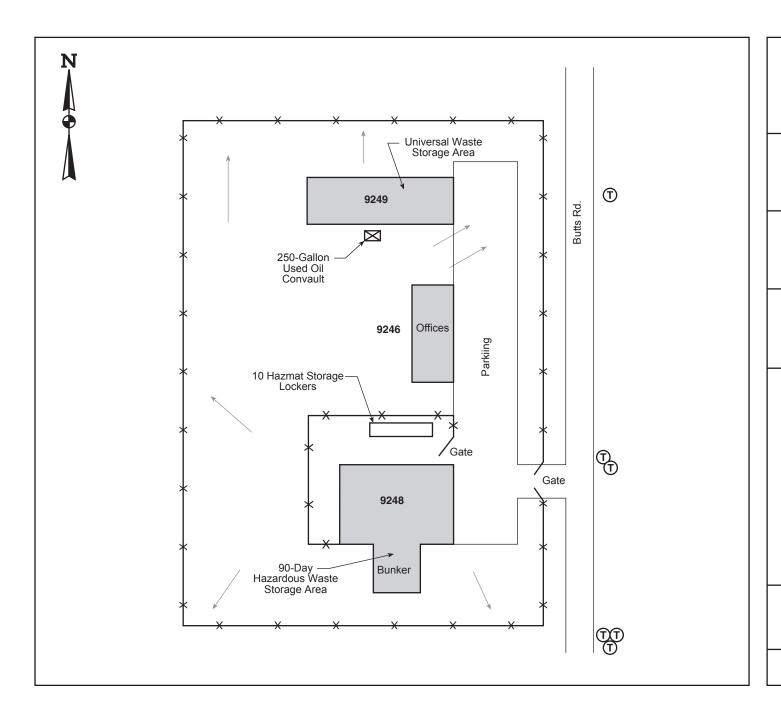
Direction of Flow

...... Underground Piping

- Overhead Piping

Approximate Scale 1" = 132'





Buildings 9246, 9248 and 9249 Hazardous Waste Storage Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map

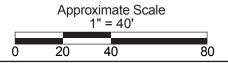


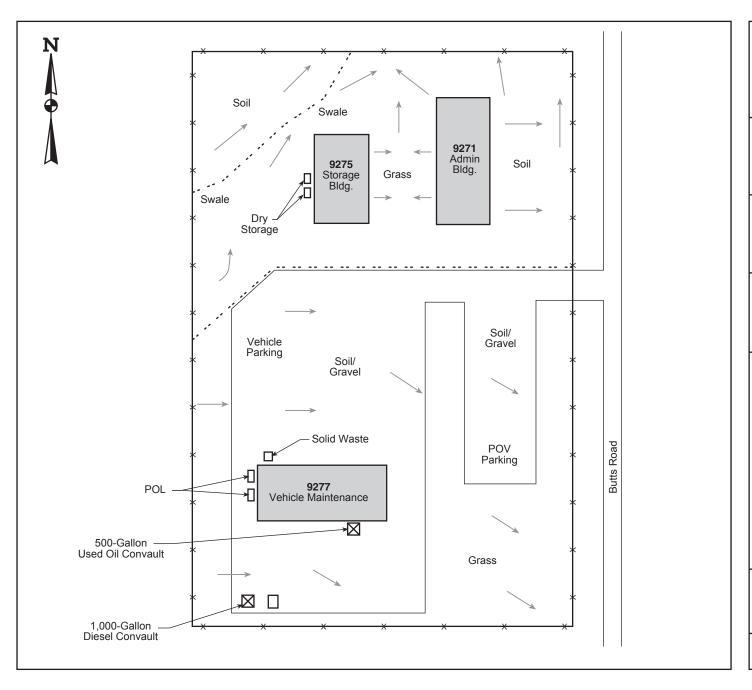
X X Fence

Tank Location

Pole-Mounted Transformer

Direction of Flow





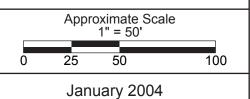
Building 9277 SEABEES Reserve (U.S. Navy) Fort Carson, CO

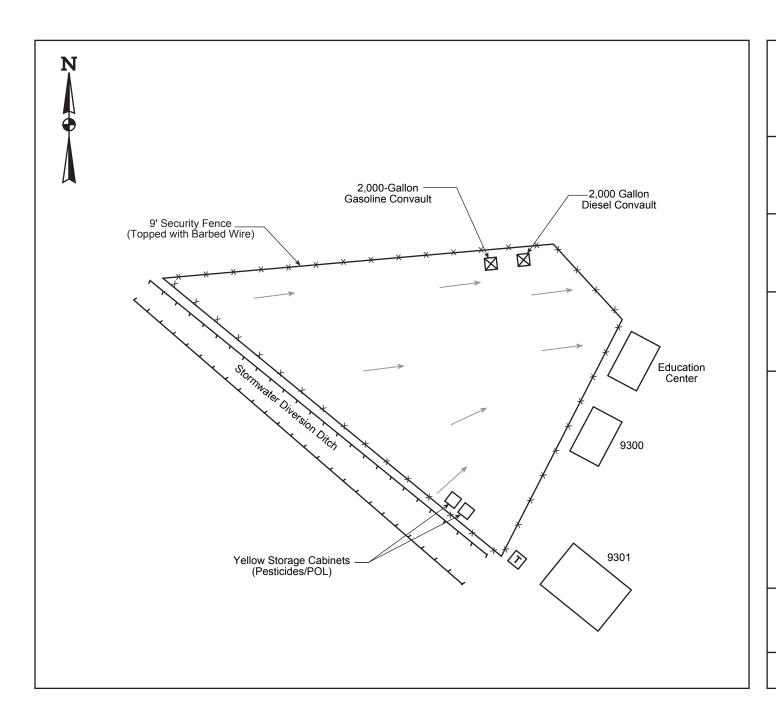
Hazardous Materials Inventory

Storage Location Map









Building 9300 Wildlife Motor Pool Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map

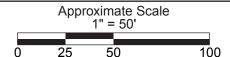


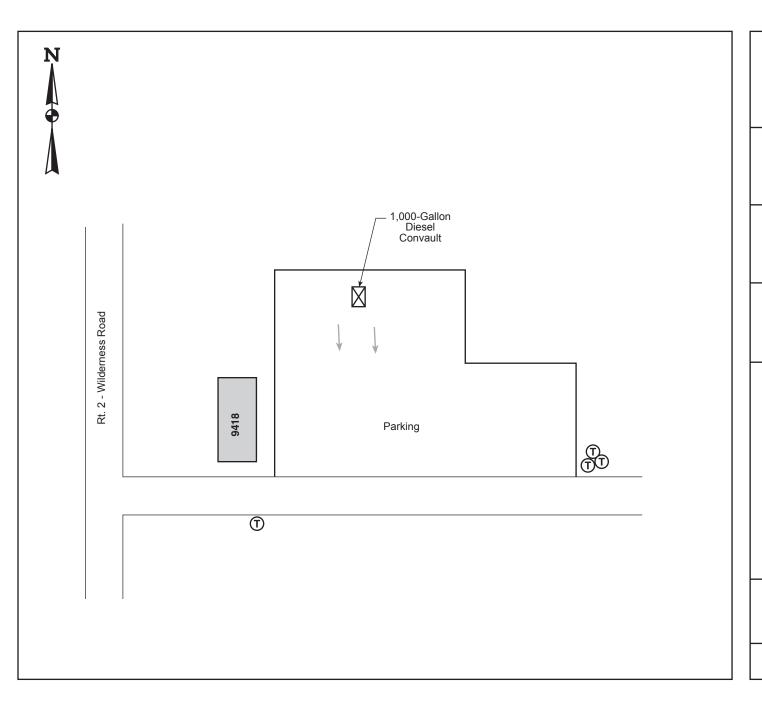
Shaw™ Shaw Environmental, Inc.

X X Fence

Pad-Mounted Transformer

Direction of Flow





Building 9418 Ammunition Storage Point Fort Carson, CO

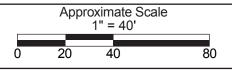
Hazardous Materials Inventory

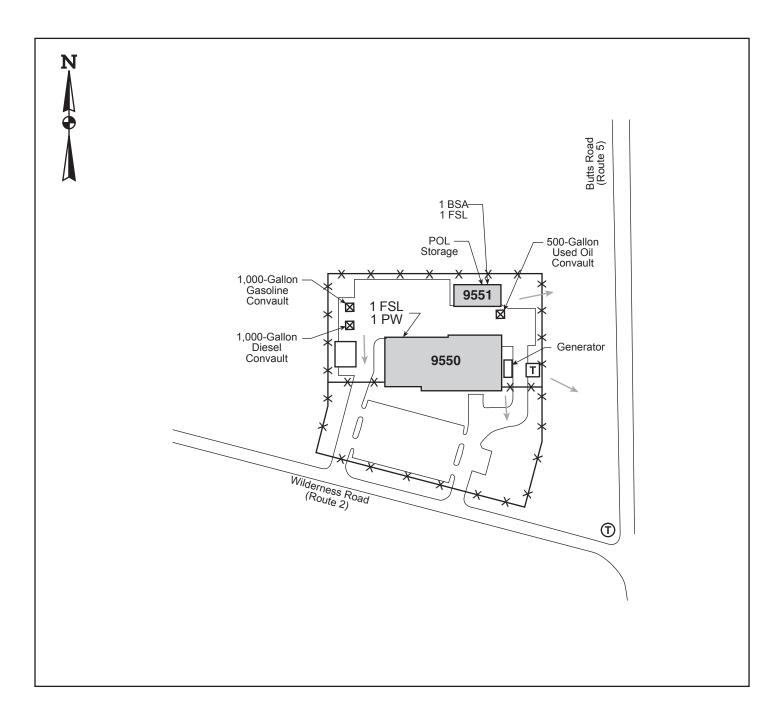
Storage Location Map



Tole-Mounted Transformer

Direction of Flow





Buildings 9550 and 9551 Range Control Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

BSA Battery Storage Area

PW Parts Washer

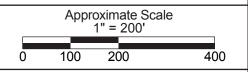
FSL Flammable Storage Locker

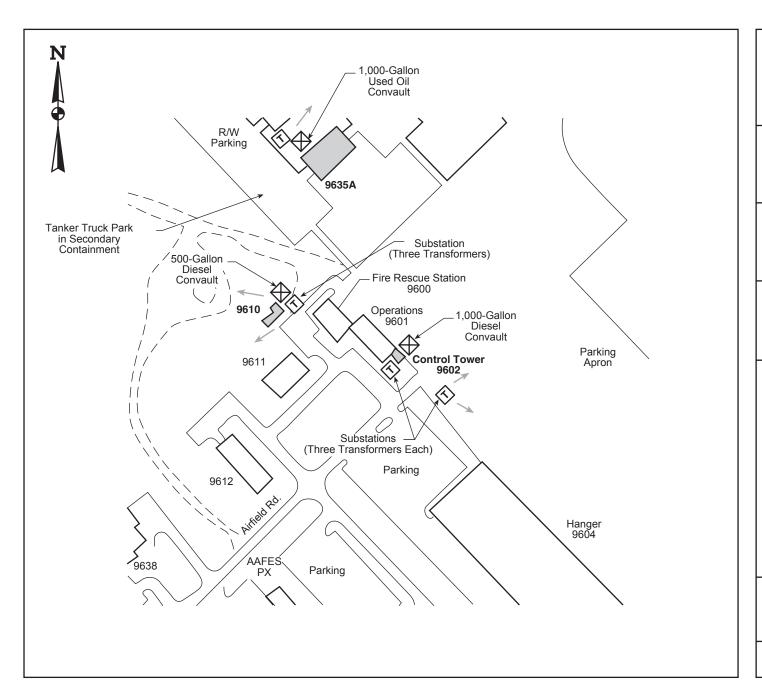
X X Fence

T Pad-Mounted Transformer

Pole-Mounted Transformer

Direction of Flow



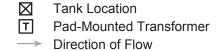


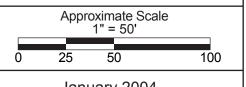
Bldgs. 9602, 9610 and 9635 Butts Airfield Fort Carson, CO

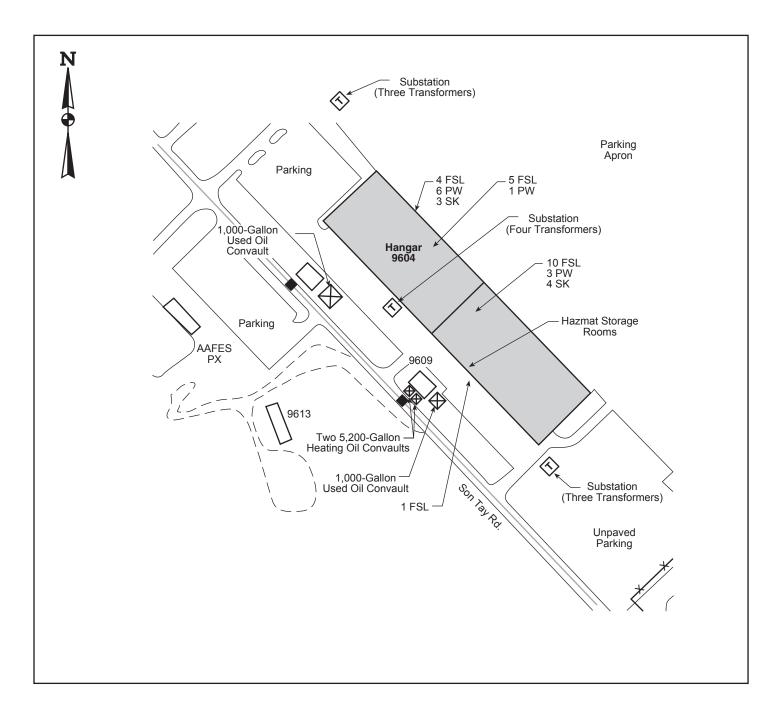
Hazardous Materials Inventory

Storage Location Map









Building 9604 Butts Airfield Aircraft Maintenance Hangar Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

PW Parts Washer

FSL Flammable Storage Locker

SK Spill Kit

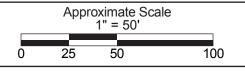
X X Fence

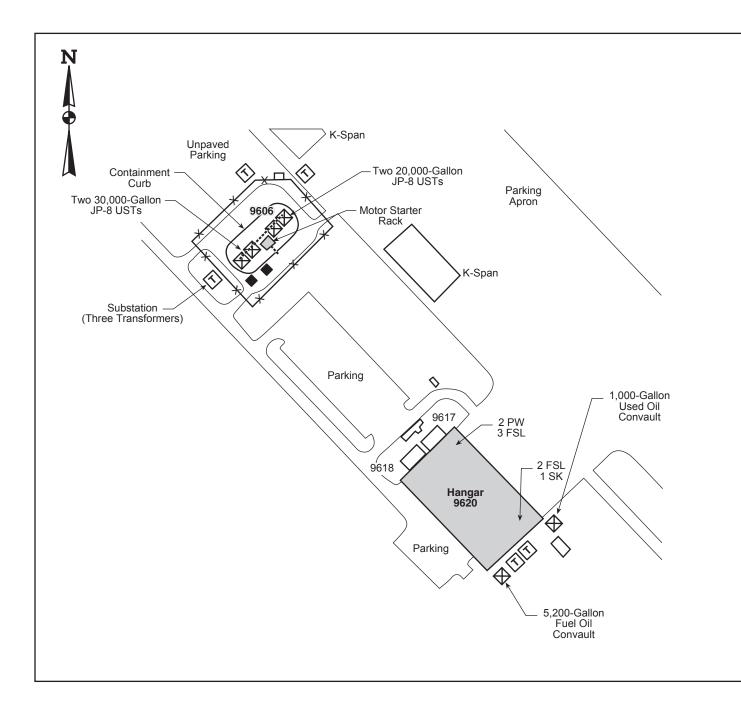
T Pad-Mounted Transformer

Storm Drain

- Storm Sewer Line

Direction of Flow





Buildings 9606 and 9620 3rd ACR Aircraft Maintenance Hangar Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

PW Parts Washer

FSL Flammable Storage Locker

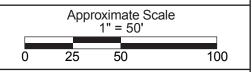
SK Spill Kit

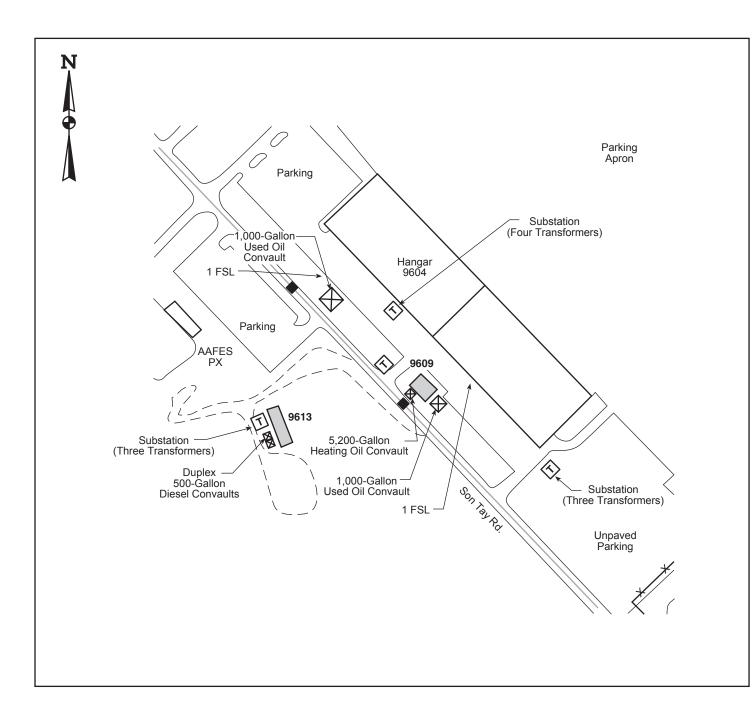
X X Fence

T Pad-Mounted Transformer

Storm Drain

----- Overhead Piping





Buildings 9609 and 9613 Butts Airfield Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



FSL Flammable Storage Locker

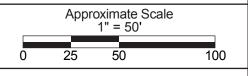
X X Fence

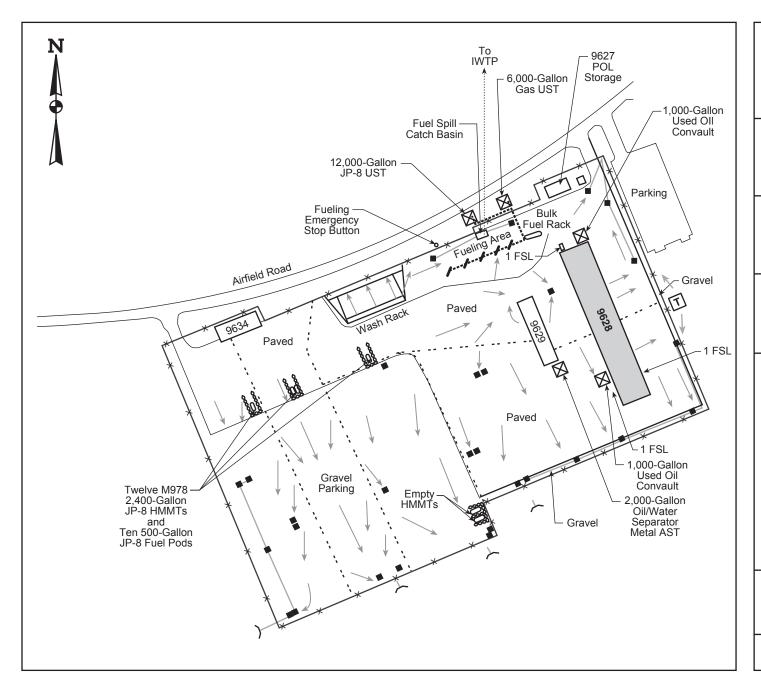
T Pad-Mounted Transformer

Storm Drain

— Storm Sewer Line

Direction of Flow





Building 9628 3rd ACR Motor Pool Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

FSL Flammable Storage Locker

X X Fence

T Pad-Mounted Transformer

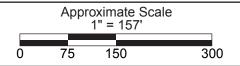
Storm Drain

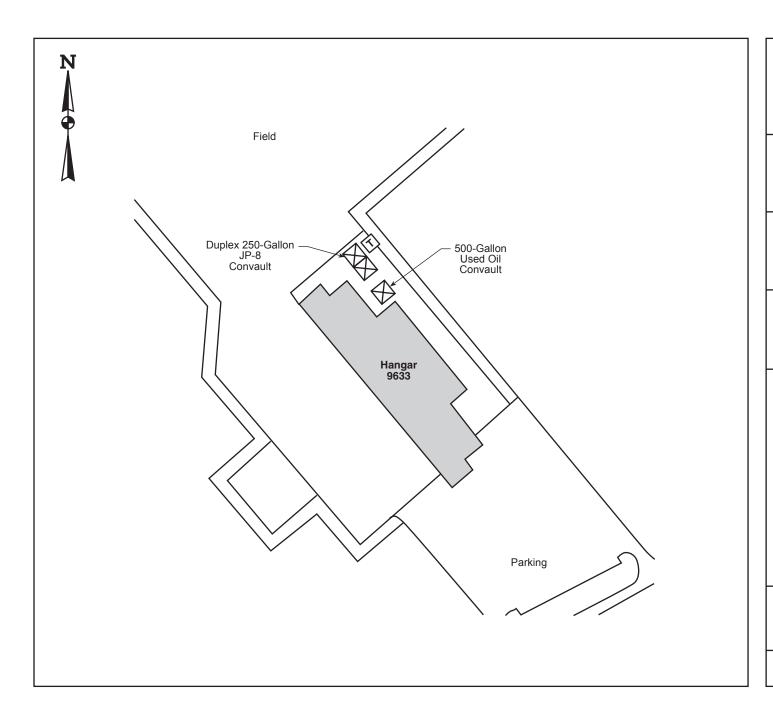
— Storm Sewer Line

Direction of Flow

Sandbag Containment

----- Overhead Piping





Building 9633 3rd ACR, Squadron 4 Aircraft Maintenance Hangar Fort Carson, CO

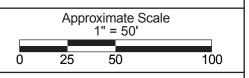
Hazardous Materials Inventory

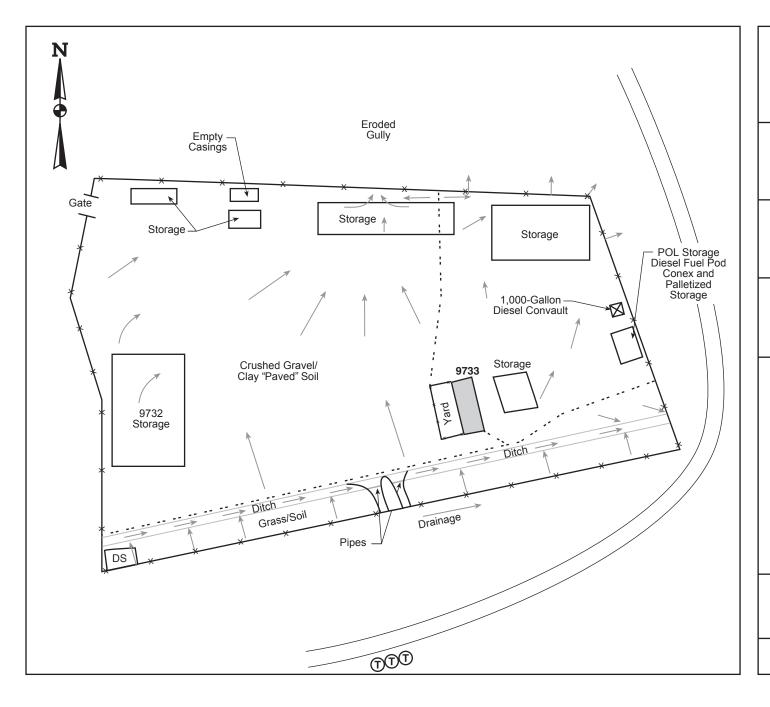
Storage Location Map



Pad-Mounted Transformer

Direction of Flow





Building 9733 Ammunition Residue Recycling Facility Fort Carson, CO

Hazardous Materials Inventory

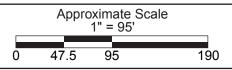
Storage Location Map

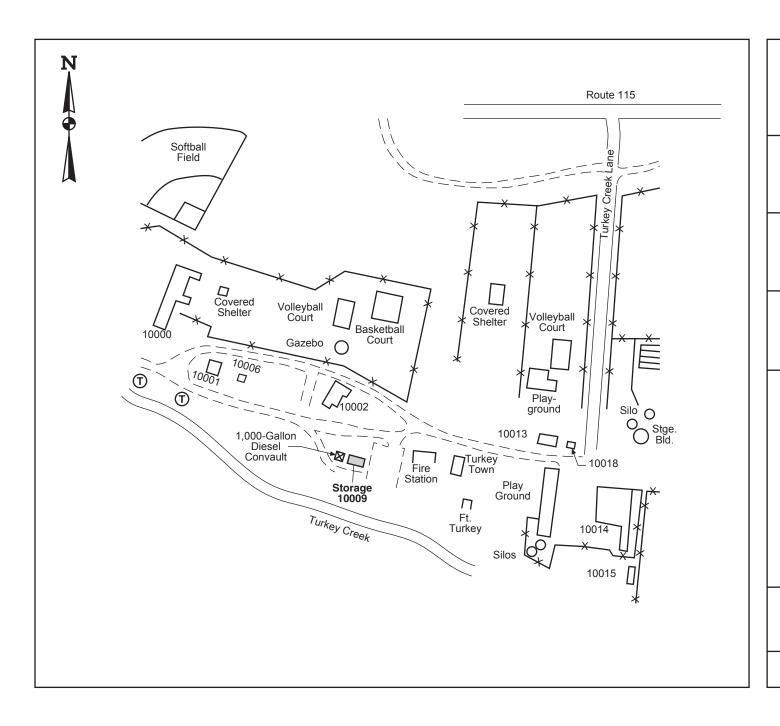


X X Fence

Direction of Flow

Pole-Mounted Transformer





Building 10009 Fire Station Storage Fort Carson, CO

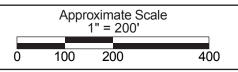
Hazardous Materials Inventory

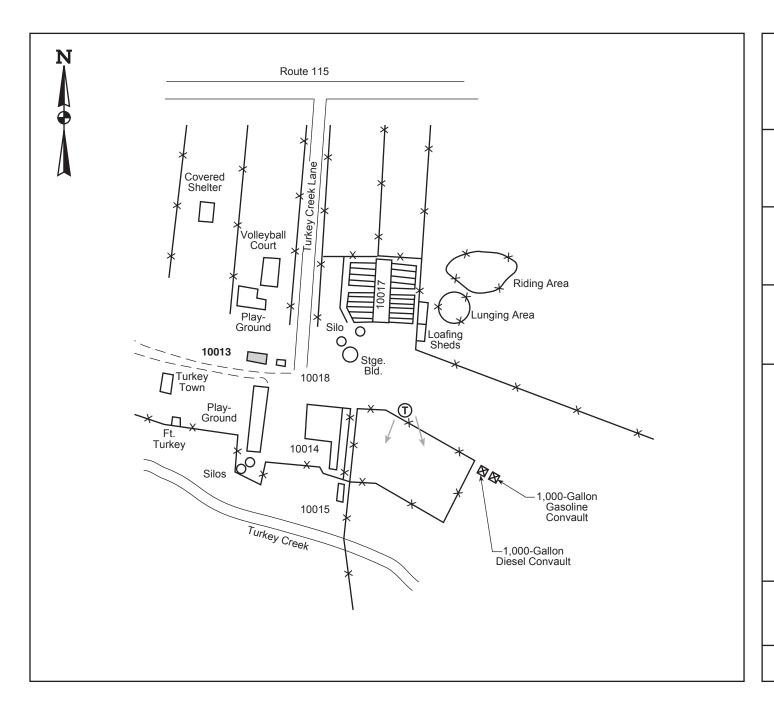
Storage Location Map



X X Fence

Pole-Mounted Transformer





Building 10013 Turkey Creek Recreation Area Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



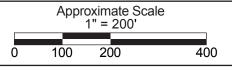
Shaw™ Shaw Environmental, Inc.

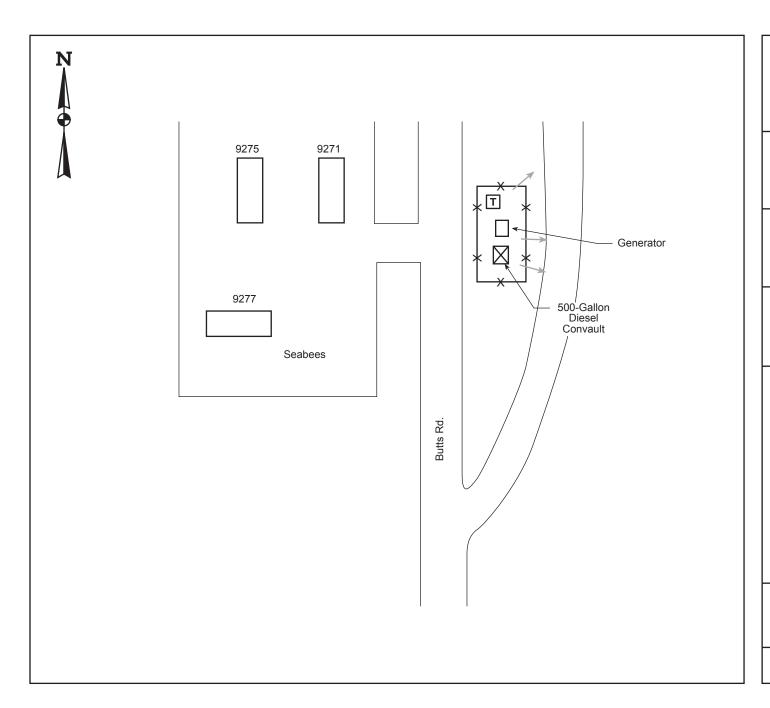
X X Fence

▼ Tank Location

T Pole-Mounted Transformer

Direction of Flow





Butts Road Pump Station (9299) Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map

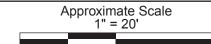


Shaw™ Shaw Environmental, Inc.

X X Fence

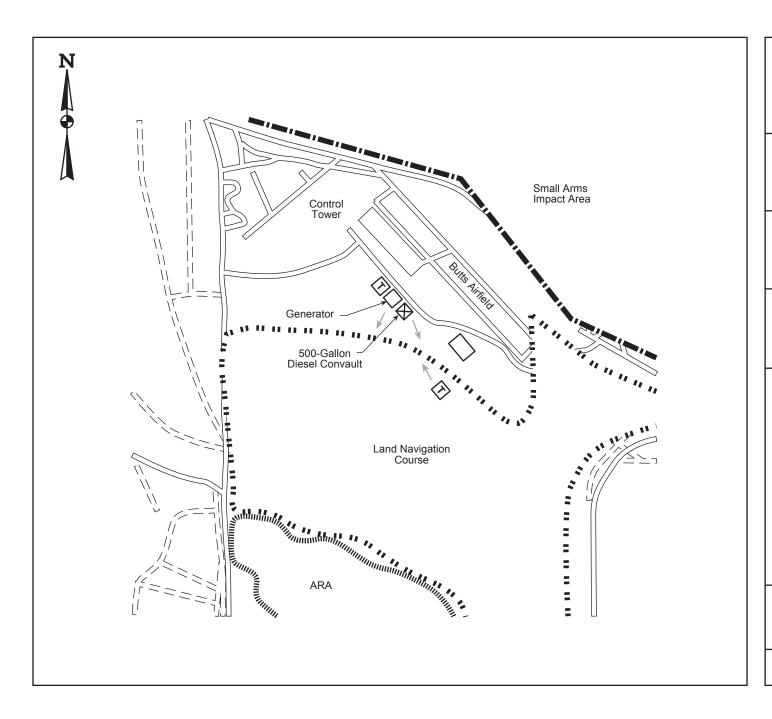
Pad-Mounted Transformer

Direction of Flow



January 2004

40



Butts Road Pump Station 9699 Fort Carson, CO

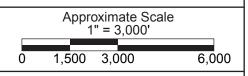
Hazardous Materials Inventory

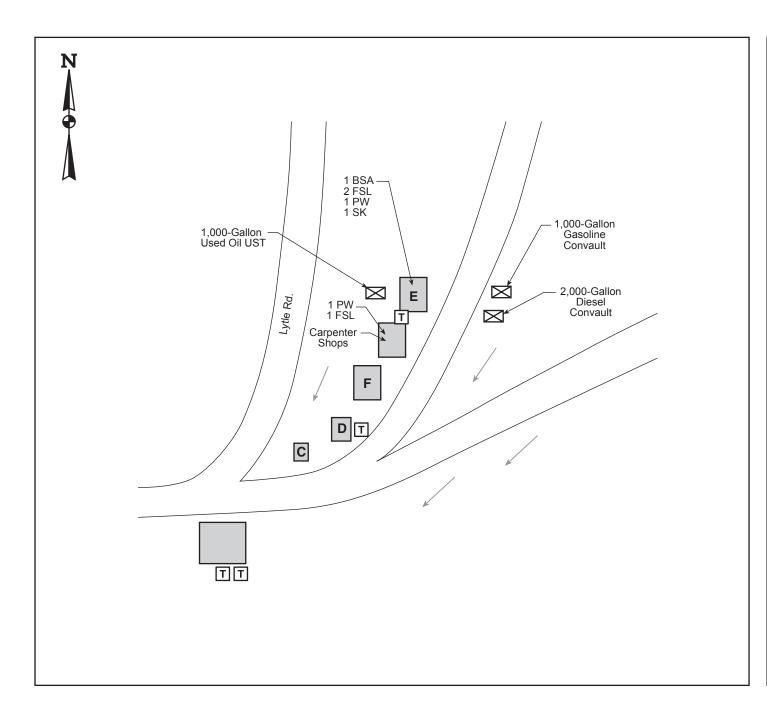
Storage Location Map



Pad-Mounted Transformer

Direction of Flow





MPRC Range Support Facility Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

BSA Battery Storage Area

PW Parts Washer

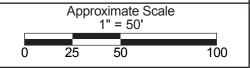
FSL Flammable Storage Locker

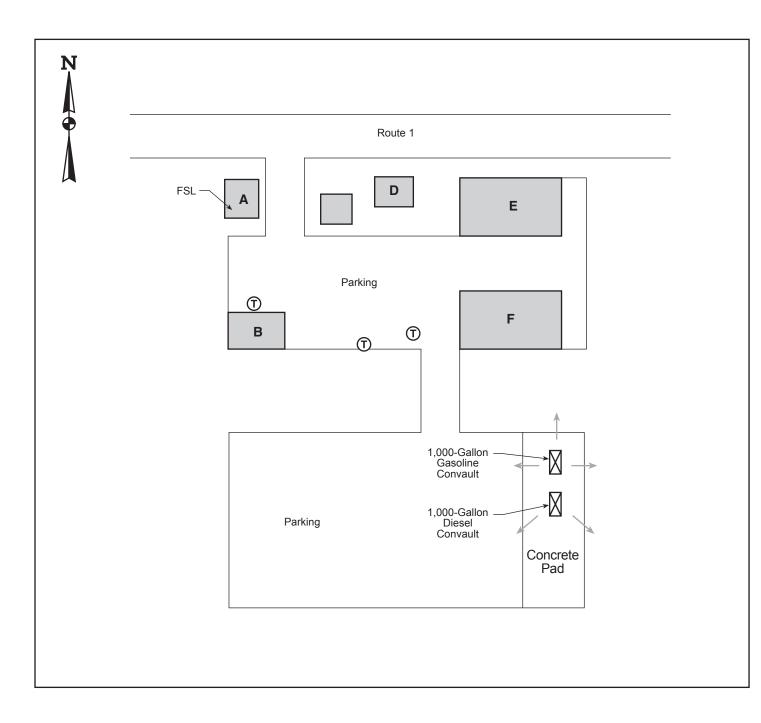
SK Spill Kit

T

Pad-Mounted Transformer

Direction of Flow





Range 109 Support Facility Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map

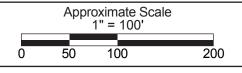


FSL Flammable Storage Locker

▼ Tank Location

Pole-Mounted Transformer

Direction of Flow



Fort Carson General Site Map

Fort Carson Military Installation Map

Fort Carson Transformer Map

Fort Carson Storm Sewer Map

This section of the FRP provides an overview of Fort Carson and a description of past activities at the facility. The Facility Information Form is provided as Figure 2-1.

2.1 NAME OF INSTALLATION

The name of the installation for which this plan has been developed is Fort Carson, Colorado.

2.2 FUNCTION OF INSTALLATION

Fort Carson is a Forces Command (FORSCOM) post. The initial year of operation was 1942; however, the facility has evolved significantly since that time. Its current missions are to provide the command, administrative, and logistical functions necessary to operate and maintain facilities at Fort Carson, and to support active Army tenant units and other assigned activities. The primary units assigned to Fort Carson are the Third Armored Cavalry Regiment (3rd ACR), the 7th Infantry Division, the 10th Special Forces Group Airborne (10th SFGA), the 3rd Brigade (3rd BCT), and the 43rd Area Support Group (43rd ASG). The post also provides base operations support to other tenant activities, including a Medical Department Activity, Army Air Force Exchange Service (AAFES), United States Army Reserve (USAR), and the Colorado National Guard. In addition, Fort Carson provides support (as a training area) for various reserve and active duty units of the Department of Defense.

2.3 LOCATION OF INSTALLATION

Fort Carson is located in east-central Colorado at the base of the Rocky Mountain Front Range and includes sections of El Paso, Pueblo, and Fremont Counties. Fort Carson encompasses 137,403 acres, measuring 24 miles (10.9 km) in a north-south direction and between 2 and 15 miles (0.9 to 6.8 km) in an east-west direction. The cantonment area, occupying 9,983 acres in the northern portion of Fort Carson, is located 8 miles (3.6 km) south of Colorado Springs and 39 miles (17.7 km) north of Pueblo. The cantonment area houses the troop quarters, hospital, Butts Army Air Field, industrial and vehicle maintenance facilities, and other tenant activities such as the Defense Reutilization and Marketing Organization (DRMO) at Fort Carson. Colorado State Road 115 delineates the western boundary of the reservation; Interstate 25 delineates its northeastern boundary. The major access points to Fort Carson are located in the northernmost portion of the reservation. Fort Carson also utilizes a training area, Pinon Canyon Maneuver Site (PCMS), Las Animas County, Colorado, that consists of 227,300 acres. PCMS is not included in the SPCCP or the FRP.

Figure 2-1 Facility Information Form

General Information

Facility Name: U.S. DOD U.S. Army - Fort Carson (DECAM)

Location (Address): 1638 Elwell Street, Building 6236

City: Fort Carson State: Colorado Zip: 80913-4356

County: El Paso

Phone Number: (719) 526-1723

Latitude & Longitude

Latitude: 038 Degrees 45 Minutes 45 Seconds

Longitude: 104 Degrees 47 Minutes 45 Seconds

Wellhead Protection Area

Wellhead Protection Area: None present

Owner/Operator Information

Owner: U.S. Department of Defense

Owner Location (Street Address): Not Applicable

City: Washington State: District of Columbia Zip: Not Applicable

County: Not Applicable

Phone Number: Not Applicable

Qualified Individual

Name: Edward Tebo

Position: Hazardous Waste Program Manager

Work Address: 1638 Elwell Street, Building 6236, Fort Carson, Colorado 80913-4356

Home Address: Not Available

Emergency Phone Number: (719) 524-3534 Cell: (719) 338-1625

Training: 40-hour HAZMET; 8-hour annual refreshers

POL Storage Information

Date of Oil Storage Start-Up: Approximately 1942

Current Operation: Military Installation

North American Industrial Classification System (NAICS): 92811

Date(s) and Type(s) of Substantial Expansion(s): Unknown; contact Department of the

Army for historical information

This section of the FRP provides the information needed to respond to a POL and/or hazardous substance release that is beyond the capability of the individual unit to control, as described in Section 7.0 of the Fort Carson SPCCP. The information provided in this emergency response section assists Fort Carson in responding to all spills, including a worst-case discharge. All figures referenced within this section are presented at the end of this section.

3.1 NOTIFICATION

The information provided in the subsections below will assist the DECAM IOSC in meeting spill notification requirements.

3.1.1 Emergency Notification Telephone List

The emergency notification telephone list provides the telephone numbers of individuals or organizations that may need to be contacted in the event of an oil and/or hazardous substance spill. The contact list is accessible to all facility employees to ensure that, in the case of a release, any employee on site can immediately notify the appropriate parties. The emergency notification telephone list is provided in Figure 3-1.

3.1.2 Spill Response Notification Form

The spill response notification form is a checklist of information that should be provided to the National Response Center (NRC) and other response personnel in the event of a reportable spill. The spill response notification form should be prepared by the DECAM IOSC with information provided by the spiller. All information on this form must be known or be in the process of being collected at the time of notification; however, spill notification should not be delayed to collect information. The spill response notification form is provided in Figure 3-2.

3.2 RESPONSE EQUIPMENT LIST

The facility response equipment list provides an inventory of Fort Carson's response equipment, a description of the equipment and its capabilities, and the quantity and location of the stored equipment. The facility response equipment list is provided in Figure 3-3.

3.3 RESPONSE EQUIPMENT TESTING/DEPLOYMENT

This section provides information regarding response equipment tests and deployment drills. Response equipment deployment exercises are conducted to ensure that response equipment is operational and that the personnel who operate the equipment in a spill response are capable of deploying and operating it. Representative samples of each type of response equipment are deployed and operated, while the remainder are properly maintained. If appropriate, testing of response equipment is conducted while it is being deployed. A response equipment testing and deployment drill log is provided as Figure 3-4.

The Installation Fire Department tests response equipment during each spill response activity on Fort Carson or at least twice annually. Response equipment is deployed at least annually. Deployment of equipment during a spill response serves as a deployment exercise, if appropriate.

3.4 FACILITY RESPONSE PERSONNEL

This section lists all emergency response personnel whose duties involve responding to an emergency, their response times, their duties during a response action, and their response training.

3.4.1 Installation Fire Department Emergency Response Team

The Installation Fire Department Emergency Response Team is listed in Figure 3-5. The Fire Department is available and on-call 24/7/365. The DECAM Spill Response Team is listed in Figure 3-6. These lists provide the names and telephone numbers of spill response team members, their response times, their duties during a response action, and their response training.

3.4.2 Installation Fire Department Emergency Response Team Commander Duties

The Installation Fire Department Spill Response Team Commander is responsible for the following duties during an oil and/or hazardous substance emergency:

- Activate internal alarms and hazard communication systems to notify facility personnel, as needed:
- Notify response personnel, as needed;
- Identify the character, exact source, amount, and extent of the release, as well as other items needed for notification;
- Assess the interaction of the spilled substance with water and/or other substances stored at the facility and notify response personnel at the scene of the results of that assessment;
- Assess the possible hazards to human health and the environment due to the release. This
 assessment must consider both the direct and indirect effects of the release (i.e., the
 effects of any toxic, irritating, or asphyxiating gases that may be generated, or the effects
 of any hazardous surface water runoffs from water or chemical agents used to control fire
 and heat-induced explosion);

- Assess and implement prompt removal actions to contain and remove the substance released;
- Coordinate rescue and response actions as previously arranged with all response personnel;
- Use authority to immediately access funding to initiate cleanup activities; and,
- Direct cleanup activities until properly relieved of this responsibility.

3.4.3 Emergency Response Contractors

Fort Carson does not anticipate a need for outside emergency response contractors for spill response and, therefore, does not contract emergency response contractors. The Installation Directorate of Public Works employs an Operations and Maintenance Contractor tasked with spill clean up support. Fort Carson has negotiated a mutual aid agreement with the City of Colorado Springs to provide mutual emergency response assistance in the event of a release that exceeds either entity's individual response capabilities. A copy of the mutual aid agreement is included in Appendix B.

3.5 EVACUATION PLANS

No evacuation plan has been prepared for Fort Carson because of the geographic separation of small-quantity POL and hazardous substance storage facilities. In the unlikely event that evacuation is necessary, the DECAM IOSC will contact the Military Police to initiate evacuation activities.

3.6 DECAM IOSC'S DUTIES (QUALIFIED INDIVIDUAL)

The DECAM IOSC's duties during a spill response action include:

- Provide technical assistance to the Installation Fire Department Spill Response Team Commander;
- Notify and provide necessary information to the appropriate Federal, State, and local authorities with designated response roles, including the National Response Center, State Emergency Response Commission, and Local Emergency Planning Committee, as needed. The DECAM IOSC also has full authority to implement removal activities.
- In the event of any major spill, notify the Emergency Operation Center; in the event of a major spill downrange, also notify the Range Control firing desk.

Figure 3-1
Emergency Notification Telephone List

Occasion	Organization	Phone Number
If individual unit cannot control	Installation Fire Department	911
POL or hazardous substance release, notify:	Qualified Individual: Daytime Number	524-3534
-	Qualified Individual: Evening Number	597-0153
	Fort Carson DECAM	526-2022
	Fort Carson Safety Office	526-2123
	Emergency Operation Center	526-4181
	Military Police	526-2333
	Officer of the Day	526-2123
	Fort Carson Weather Office ^a	526-3620
	4 th Engineer Battalion ^a	526-4662
	Fort Carson Telephone Operator ^a	526-3431
If Fort Carson Fire Department	Colorado Springs Fire Department	99-911
cannot control POL or hazardous substance release, notify:	National Response Center (NRC)	1-800-424-8802
•	Federal On-Scene Coordinator (OSC)	1-800-227-8914
	State Emergency Response Committee (SERC) b	1-877-518-5608
	Local Emergency Planning Committee (LEPC) b	575-8400
	Fort Carson Public Affairs Office	526-4143
	Colorado Springs Police Department ^a	99-911
	Colorado Springs Public Works Department ^a	575-8400
	State Police ^a	1-303-239-4501
	Hospital/ambulance ^a	99-911
	Radio/TV stations ^b	
	KKTV ^b	634-2844
	KOAA TV ^b	632-3050
	KRDO ^b	632-1515
	KXRM TV ^b	596-2100
a Notify as needed. b To be notified only by DECAM	KAHWI I V	596-210

^b To be notified only by DECAM.

Figure 3-2 Spill Response Notification Form

General Information								
Reporter's Last N	Name:		First:	M.I.:				
Position:								
Day Phone Number: Evening Phone Number:								
Company:								
Organization Typ	e:							
Address:								
City: State: Zip:								
Were Materials D	Discharged (Yes/N	o):		•				
Confidential Infor	mation (Yes/No):							
Meeting Federal	Obligations to Rep	oort (Yes/No):		Date Calle	d:			
Calling for Respo	onsible Party(Yes/I	No):		Time Calle	ed:			
	,		Description	-				
Source of Incider	·							
Cause of Inciden	t:							
	···							
Date of Incident:		Tir	ne of Incident:	AM/PM:				
Incident Address	/Location:							
	,							
Nearest City:		Sta	ate:					
Distance from Ci	tv:		it of Measure:					
Direction from Ci								
Section:		То	wnship:					
Range:			rough:					
Container Type:								
Tank Oil Storage	Capacity:	Un	its of Measure:					
Facility Oil Storage			its of Measure:					
Facility Latitude:	go capacity.	Degrees	Minu	tes	Seconds			
Facility Longitude	j.	Degrees	Minu		Seconds			
r domey Longitude	.		al Spilled	-	20001140			
	Discharged	Unit of	Discharged in	Quantity in	Unit of			
CHRIS Code	Quantity	Measure	Water (Yes/No)	Water	Measure			
OTHER COUC	Quantity	Wiododio	**************************************	Water	Widdodio			

Spill Response Notification Form - Continued

Response Action						
Actions Taken to Correct, Control, or Mitigate Incident:						
*						
Impa	ct					
Number of Injuries:	Number of Deaths:					
Were there Evacuations (Yes/No):	Number of Deaths. Number Evacuated:					
Was there any Damage (Yes/No):	Damage in Dollars (Approximate):					
Medium Affected:	Damage in Dollars (Approximate).					
Description of Medium:						
Description of Medium:						
Address of Lafe and Consider the Address						
Additional Information about Medium:						
Additional in	formation					
Any Information about Incident Not Recorded						
Elsewhere:						
Caller Notif	ications					
Environmental Protection Agency (Yes/No):						
United States Coast Guard (Yes/No):						
State (Yes/No):						
Other (Yes/No):						
Description of Other:						
'						

Figure 3-3 Response Equipment List and Location

	SI	kimmers/Pum	ps - Op	erational (Status		
Type: Decon Pool P	Pumps	Model:	: NA		Year: NA		
Number: Two (2)	-	Capac	ity (gal/i	min):			
Daily Effective Reco	very Rate:	•	, ,	,			
Storage Location: H	IAZMAT Van						
Date Fuel Last Char	nged: NA						
Type:		Model:			Year:		
Number:		Capac	ity (gal/ı	min):			
Daily Effective Reco	very Rate:	•		,			
Storage Location:							
Date Fuel Last Char	nged:						
		Booms - C	peratio	nal Status	S		
Type:		Model:			Year:		
Number:		Size (length in	n feet):		Containmer	nt Area	a (square feet):
Storage Location:			•				
Type:		Model:			Year:		
Number:		Size (length in	n feet):		Containmer	nt Area	a (square feet):
Storage Location:							
Type:		Model:			Year:		
Number:		Size (length in feet):			Containment Area (square feet):		
Storage Location:							
		Chemicals (I	Dispers	ants) Stor	red		
				Date	Treatme	ent	
Type	Am	ount	Pur	chased	Capaci	ty	Storage Location
	<u> </u>		L		<u> </u>		
Were appropriate pro							
NCP (40 CFR 300.9					ere applicat	oie (Ye	es/No/NA) ?
Name and State of C	Jn-Scene Cod	ordinator (USC) autnor	izing use:			
Date Authorized:	Dianama	Diamanaina	- !				
	Dispersan	t Dispensing I	Equipm	ent - Opei	rational Sta		D T:
Tura a anal V	,	Conneit		Ctoromo	Lacation		Response Time
Type and Y	ear	Capacit	У	Storage	Location		(minutes)
Sorbents – Operational Status							
Tyran Missallanaau	o Carbanto (D						
Type: Miscellaneous		aus, Clay Grai	iules, S	orbeni Pov	wder)		
Amount:	Year Purchased: NA						
	(gallons):						
Absorption Capacity							
Storage Location: H	IAZIVIA I Vall						

Response Equipment List and Location - Continued

Hand Tools – Operational Status								
Type and Year	Quantity	Storage Location						
Brass Shovels	Two (2)	HAZMAT Van						
Brass Scoop Shovels	Two (2)	HAZMAT Van						
Bolt Cutters	One (1)	HAZMAT Van						
Sledge Hammer	One (1)	HAZMAT Van						
Tool Boxes (Miscellaneous)	Two (2)	HAZMAT Van						
Brass Rakes	Two (2)	HAZMAT Van						
Brooms	Six (6)	HAZMAT Van						
Ladder	One (1)	HAZMAT Van						
	Communication Equipment							
Type and Year	Quantity	Storage Location/Number						
Fire-Fighting and	Personal Protective Equipment -	Operational Status						
Type and Year	Quantity	Storage Location						
Miscellaneous Coveralls	NA	HAZMAT Van						
Miscellaneous Boots	NA	HAZMAT Van						
Miscellaneous Gloves	NA	HAZMAT Van						
Hard Hats	Six (6)	HAZMAT Van						
Air-Purifying Respirators	Two (2)	HAZMAT Van						
Respirator Cartridges	Twelve (12)	HAZMAT Van						
Air Packs	Seven (7)	HAZMAT Van						
Gas Detectors	Three (3)	HAZMAT Van						
Other (e.g., Heavy	Equipment, Boats and Motors) -	Operational Status						
Type and Year	Quantity	Storage Location						

Figure 3-4
Response Equipment Testing and Deployment Drill Log

Response Equipment	Inspection Frequency	Deployment Frequency	Last Inspection Date	Last Deployment Date
•				
	l			l .

Figure 3-5
Emergency Response Personnel

		Response	Responsibility During	
Name	Phone	Time	Response Action	Response Training
S. Huffman	(719) 526-5615	0-5 minutes	Team Leader	Fire/Spill Response
D. Broden	(719) 526-5615	0-5 minutes	Team Member	Fire/Spill Response
R. Ortega	(719) 526-5615	0-5 minutes	Team Member	Fire/Spill Response
S. Polizzi	(719) 526-5615	0-5 minutes	Team Member	Fire/Spill Response
M. Orr	(719) 526-5615	0-5 minutes	Team Member	Fire/Spill Response
A. Harris	(719) 526-5615	0-5 minutes	Team Member	Fire/Spill Response
B. Balton	(719) 526-5615	0-5 minutes	Team Member	Fire/Spill Response
T. Keuker	(719) 526-5615	0-5 minutes	Team Member	Fire/Spill Response
M. VanDyke	(719) 526-5615	0-5 minutes	Team Member	Fire/Spill Response
D. Bauman	(719) 526-5615	0-5 minutes	Team Member	Fire/Spill Response
J. Berry	(719) 526-5615	0-5 minutes	Team Member	Fire/Spill Response
P. Tepley	(719) 526-5615	0-5 minutes	Team Member	Fire/Spill Response
B. Gallagher	(719) 526-5615	0-5 minutes	Team Member	Fire/Spill Response
M. Flores	(719) 526-5615	0-5 minutes	Team Member	Fire/Spill Response
J. Onorato	(719) 526-5615	0-5 minutes	Team Member	Fire/Spill Response
J. Werner	(719) 526-5615	0-5 minutes	Team Member	Fire/Spill Response
J. Schliske	(719) 526-5615	0-5 minutes	Team Member	Fire/Spill Response

Figure 3-6
DECAM Spill Response Team

Name	Training Level	Response Time	Responsibility During Response Action
Ed Tebo	Technical Level Responder	1 hour	Qualified Individual
Phil Cathey	Technical Level Responder	As needed (2 hours max)	Team member
Don Sullivan	Technical Level Responder	As needed (2 hours max)	Team member
Francis Calar	Technical Level Responder	As needed (2 hours max)	Team member
Terry Eberle	First Responder	As needed (2 hours max)	Team member
Barney Rohrer	First Responder	As needed (2 hours max)	Team member
Hal Hilton	First Responder	As needed (2 hours max)	Team member
Joe Tarquino	First Responder	As needed (2 hours max)	Team member
Paula Dornick	First Responder	As needed (2 hours max)	Team member
Jennifer Webb	First Responder	As needed (2 hours max)	Team member
Ronnie Campbell	First Responder	As needed (2 hours max)	Team member
Mark Bartle	First Responder	As needed (2 hours max)	Team member

Hazard evaluation is an industry practice that allows facility owners or operators to develop a complete understanding of potential hazards and the response actions necessary to address these hazards. Hazard identification and evaluation will assist facility owners or operators in planning for potential discharges, thereby reducing the severity of discharge impacts that may occur in the future. The evaluation also may help the operator identify and correct potential sources of discharges. In addition, special hazards to workers and emergency response personnel safety will be evaluated, as well as the facility's oil spill history.

4.1 HAZARD IDENTIFICATION

To properly plan for a release, two things must be considered: 1) the location of a possible release, and 2) the facility operations that may result in a release. This section lists the aboveground and underground storage tanks at Fort Carson and identifies the various operations conducted at the facility that could result in a significant release. Because of the size of Fort Carson, however, the location of every possible release source is not included in this plan. Only storage containers with a capacity greater than 100 gallons have been included. Thus small, flammable storage lockers containing 5-gallon containers of POL or lubricants are not specifically identified, although their building location is identified on the individual unit maps included in Section 9.

4.1.1 Underground Storage Tanks

Fort Carson currently has 31 regulated underground storage tanks (USTs) storing a total of 468,000 gallons of POL. All of these tanks have been upgraded to 1998 standards and, when appropriate, the tanks are being replaced by ConVault aboveground tanks. Table 4-1 lists the USTs at Fort Carson. Each of the tanks is identified on the individual unit maps included in Section 9.

4.1.2 Aboveground Storage Tanks

Fort Carson currently has 145 aboveground storage tanks (ASTs) storing a total of 584,100 gallons of POL. Of the 145 ASTs, only 10 that are used to provide heating fuel and two that provide fuel for the hospital generators are not ConVault tanks. There are no records of any aboveground tank failures at Fort Carson.

Table 4-1 Hazard Identification - Inventory of Fort Carson Underground Storage Tanks

Building No.	Tank No.	Facility	Substance	Quantity Stored (gal)	Type/Year Installed	Max. Capacity (gal)	Date Upgraded to 1998 Standards
501	14971-1	52nd Engineers Motor Pool	Antifreeze/ ethylene glycol	1,000	Double-wall fiberglass/1993	1,000	1993
501	14971-2	52nd Engineers Motor Pool	JP-8	10,000	Double-wall fiberglass/1993	10,000	1993
501	14971-3	52nd Engineers Motor Pool	Used oil	2,500	Double-wall fiberglass/1993	2,500	1993
501	14971-4	52nd Engineers Motor Pool	JP-8	20,000	Double-wall fiberglass/1993	20,000	1993
900	14972-1	AAFES Shoppette/Gas Station	Gasoline	10,000	Double-wall fiberglass/1993	10,000	1993
900	14972-2	AAFES Shoppette/Gas Station	Gasoline	10,000	Double-wall fiberglass/1993	10,000	1993
900	14972-3	AAFES Shoppette/Gas Station	Gasoline	10,000	Double-wall fiberglass/1993	10,000	1993
1515	4370-1	AAFES Service Station	Gasoline	10,000	Double-wall fiberglass/1987	10,000	1998
1515	4370-2	AAFES Service Station	Gasoline	10,000	Double-wall fiberglass/1987	10,000	1998
1515	4370-3	AAFES Service Station	Gasoline	10,000	Double-wall fiberglass/1987	10,000	1998
1882	4379-1	3/29 Artillery Motor Pool	JP-8	20,000	Single-wall fiberglass/1984	20,000	1998
1882	4379-2	3/29 Artillery Motor Pool	Gasoline	20,000	Single-wall fiberglass/1984	20,000	1998
1882	4379-3	3/29 Artillery Motor Pool	JP-8	20,000	Single-wall fiberglass/1984	20,000	1998
1982	4381-1	1/68th AR Battalion Motor Pool	JP-8	20,000	Single-wall fiberglass/1984	20,000	1998
1982	4381-2	1/68th AR Battalion Motor Pool	JP-8	20,000	Single-wall fiberglass/1984	20,000	1998
1982	4381-3	1/68th AR Battalion Motor Pool	JP-8	20,000	Single-wall fiberglass/1984	20,000	1998
3600		AAFES Service Station	Gasoline		Double-wall fiberglass/2001	12,000	2001
3600		AAFES Service Station	Gasoline		Double-wall fiberglass/2001	12,000	2001
3600		AAFES Service Station	Gasoline		Double-wall fiberglass/2001	12,000	2001
8152	4455-1	68th Support Battalion Motor Pool	JP-8	20,000	Single-wall fiberglass/1984	20,000	1998
8152	4455-2	68th Support Battalion Motor Pool	Gasoline	20,000	Single-wall fiberglass/1984	20,000	1998
8152	4455-3	68th Support Battalion Motor Pool	Diesel	20,000	Single-wall fiberglass/1984	20,000	1998

Building No.	Tank No.	Facility	Substance	Quantity Stored (gal)	Type/Year Installed	Max. Capacity (gal)	Date Upgraded to 1998 Standards
9072	4464-1	3/3rd ACR Motor Pool	JP-8	20,000	Single-wall fiberglass/1984	20,000	1998
9072	4464-2	3/3rd ACR Motor Pool	Gasoline	20,000	Single-wall fiberglass/1984	20,000	1998
9072	4464-3	3/3rd ACR Motor Pool	JP-8	20,000	Single-wall fiberglass/1984	20,000	1998
9606	2410-2	Aviation Fuel Point	JP-8	30,000	Single-wall steel/1965	30,000	1998
9606	2410-1	Aviation Fuel Point	JP-8	30,000	Single-wall steel/1965	30,000	1998
9606	2410-4	Aviation Fuel Point	JP-8	20,000	Single-wall steel/1965	20,000	1998
9606	2410-5	Aviation Fuel Point	JP-8	500	Single-wall steel/1965	500	1998
9628	2813-2	4th Brigade Motor Pool	JP-8	12,000	Single-wall fiberglass/1987	12,000	1998
9628	2813-3	4th Brigade Motor Pool	Gasoline	6,000	Single-wall fiberglass/1987	6,000	1998
					Total	468,000	

The ConVault tank shell is made of steel, compatible for storage of petroleum-based substances. A seamless, 6-inch reinforced concrete enclosure provides 2-hour fire protection and is impervious to spilled POL. The steel shell is isolated from the concrete encasement to ensure corrosion protection. A high performance, 30-mil high-density, polyethylene membrane encloses the primary tank, providing secondary containment within the concrete encasement. A powder coating on all external steel inhibits rusting. The tank rests a minimum of 4 inches above ground level on concrete support legs, permitting complete visual inspection. Seals, valves, and piping outside the tank containment area are in plain view of facility employees. A detection alarm sounds if a leak occurs and a manual safety valve prevents overfill. A 7-gallon containment basin provides added protection against accidental spills. The tank has no drain valves or exposed dikes that present the potential for storm water contamination. In addition, the concrete enclosure and insulation layers provide thermal protection that minimizes temperature changes. Because of its construction and built-in secondary containment, it is highly unlikely that this tank would create a spill situation.

Table 4-2 lists the ASTs at Fort Carson. Each of the tanks is identified on the individual unit maps included in Section 9.

4.1.3 Surface Impoundments

There are no surface impoundments at Fort Carson.

4.1.4 Mobile Storage Facilities

To prepare for national security obligations and train for military readiness, mobile fuel tankers are often sited for a short duration during training exercises. At these times, spill mitigation devices will be kept in the vehicles and all personnel operating the vehicles will be trained in spill mitigation procedures. When the mobile fuel tankers return to the home facility, the volume of fuel stored in the tankers will be minimized to the greatest extent practicable. If these mobile fuel tankers are regularly parked with significant amounts of fuel, secondary containment will be provided. A list of facilities at Fort Carson where mobile units are temporarily parked is provided in Table 4-3. The location of the temporary vehicles is shown on the individual unit maps in Section 9.

4.1.5 Loading/Unloading of Transportation Vehicles

Because Fort Carson receives bulk fuel shipments by tank truck, specific unloading procedures for tank trucks have been implemented as required by 40 CFR 112.7(e)(4). These procedures meet the regulations and requirements established by the U.S. Department of Transportation.

Table 4-2
Hazard Identification - Inventory of Fort Carson Aboveground Storage Tanks

Hazard Identification - Inventory of Fort Carson Aboveground Storage I					ianks	
Building No.	Serial No.	Facility	Sub- stance	Quantity Stored (gal)	Type/Year Installed	Max. Capacity (gal)
227	567380	DOL Storage	Used oil	500	ConVault/1992	500
238		Engine Maintenance	Used oil	500	ConVault	500
238		Engine Maintenance	Ethylene glycol	500	ConVault	500
324	567363	DRMO Salvage and Surplus Property	Diesel	1,000	ConVault/1992	1,000
330	567470	DOL Central Issue	Diesel	1,000	ConVault/1992	1,000
633		5 th Armored Vehicle Maintenance	Used oil	1,000	ConVault/1992	1,000
636		DECAM Maintenance	Used oil	500	ConVault/2000	500
636	809132	Vehicle Fueling	Diesel	2,000	ConVault/1996	2,000
636	809133	Vehicle fueling	Gasoline	2,000	ConVault/1996	2,000
749	567466	PCMS Vehicle Maintenance Facility	Used oil	1,000	ConVault/1992	1,000
1014	567278	DOIM Auto Data Processing	Diesel	500	ConVault/1991	500
1382	567310	DPW Roads and Grounds Maintenance	Used oil	1,000	ConVault/1992	1,000
1382	567384	DPW Roads and Grounds Maintenance	Used oil	500	ConVault/1992	500
1382	567387	DPW Roads and Grounds Maintenance	Used oil	500	ConVault/1992	500
1392	570319	43rd ASG Motor Pool	Used oil	1,000	ConVault/1992	1,000
1392	567312	43rd ASG Motor Pool	Used oil	1,000	ConVault/1992	1,000
1392	515808	43 rd ASG Motor Pool	Used oil	1,000	ConVault/1991	1,000
1399		Industrial Pump Station	Used oil	500		500
1399	513783	Industrial Pump Station	Diesel	500	ConVault/2001	500
1430	513782	Post Headquarters	Diesel	1,000	ConVault/1991	1,000
1515	567392	AAFES Service Station	Used oil	1,000	ConVault/1992	1,000
1551	953063	Directorate of Information Management	Diesel	2,000	ConVault/1995	2,000
1682	567261	Base Operations Contractor	Used oil	1,000	ConVault/1992	1,000
1682	333000	Base Operations Contractor	Diesel	6,000	ConVault/1996	6,000
1682		Base Operation Contractor	Gasoline	1,000	ConVault/2001	1,000
1682	57072	Base Operation Contractor	Diesel	2,000	ConVault/1992	2,000
1692	567260	4th Engineer Battalion Motor Pool	Used oil	1,000	ConVault/1992	1,000
1860		Heating and Cooling Plant	Fuel oil	40,000		40,000
1860		Heating and Cooling Plant	Fuel oil	40,000		40,000
1860		Heating and Cooling Plant	Fuel oil	40,000		40,000
1860		Heating and Cooling Plant	Fuel oil	40,000		40,000

Building No.	Serial No.	Facility	Sub- stance	Quantity Stored (gal)	Type/Year Installed	Max. Capacity (gal)
1860		Heating and Cooling Plant	Fuel oil	40,000		40,000
1860		Heating and Cooling Plant	Fuel oil	40,000		40,000
1860		Heating and Cooling Plant	Fuel oil	40,000		40,000
1860		Heating and Cooling Plant	Fuel oil	40,000		40,000
1860		Heating and Cooling Plant	Fuel oil	40,000		40,000
1860		Heating and Cooling Plant	Fuel oil	40,000		40,000
1860	567243	Heating and Cooling Plant	Diesel	1,000	ConVault/1991	1,000
1882	567471	3/29 Artillery Motor Pool	Used oil	1,000	ConVault/1992	1,000
1982	567379	3 rd BCT-ADA Motor Pool	Used oil	500	ConVault/1992	500
1982	567421	3 rd BCT-ADA Motor Pool	Used oil	500	ConVault/1992	500
1982	567383	3 rd BCT-ADA Motor Pool	Used oil	500	ConVault/1993	500
2031	567378	DCA General Maintenance	Used oil	500	ConVault/1992	500
2031	567428	DCA General Maintenance	Diesel	500	ConVault/1992	500
2031	567313	DCA General Maintenance	Gasoline	1,000	ConVault/1992	1,000
2082	567311	1/68th AR Battalion Motor Pool	Used oil	1,000	ConVault/1992	1,000
2392	567314	1/8th Infantry Battalion Motor Pool	Used oil	1,000	ConVault/1992	1,000
2392	570318	1/8th Infantry Battalion Motor Pool	Used oil	1,000	ConVault/1992	1,000
2427	515805	Auto Craft Shop	Used oil	1,000	ConVault/1991	1,000
2492	570321	1/12 Infantry Battalion Motor Pool	Used oil	1,000	ConVault/1992	1,000
2492	567464	1/12 Infantry Battalion Motor Pool	Used oil	1,000	ConVault/1992	1,000
2692	567388	RHHT/3rd ACR Motor Pool	Used oil	500	ConVault/1992	500
2692	567467	RHHT/3 rd ACR Motor Pool	Used oil	1,000	ConVault/1992	1,000
2792	567382	3 rd ACR/RHHT	Used oil	500	ConVault/1992	500
2792	567328	3 rd ACR/RHHT	Used oil	500	ConVault/1992	500
2992	567465	1/3rd ACR Vehicle Maintenance Shop	Used oil	1,000	ConVault/1992	1,000
2992	567420	1/3rd ACR Vehicle Maintenance Shop	Used oil	500	ConVault/1992	500
3092	567317	1/3rd ACR Motor Pool	Used oil	1,000	ConVault/1992	1,000
3092	570320	1/3rd ACR Motor Pool	Used oil	1,000	ConVault/1992	1,000
3192	567341	2/3rd ACR Motor Pool	Used oil	1,000	ConVault/1992	1,000
3292	570323	2/3rd ACR Motor Pool	Used oil	1,000	ConVault/1992	1,000
3868	515847	Sewage Treatment Plant	Diesel	2,000	ConVault/1991	2,000
3909		Wastewater Treatment Plant	Diesel	2,000	ConVault/1998	2,000
6290	515655	Hospital Heating Plant	Diesel	5,200	ConVault/1991	5,200
6290	515655	Hospital Heating Plant	Diesel	5,200	ConVault/1991	5,200
6290	683529	Hospital Heating Plant	Fuel oil	5,200	ConVault/1992	5,200

Building No.	Serial No.	Facility	Sub- stance	Quantity Stored (gal)	Type/Year Installed	Max. Capacity (gal)
7426	982516	10th SFG Vehicle Maintenance Building	Used oil	250	ConVault/1994	250
7426	982515	10th SFG Vehicle Maintenance Building	Used oil	250	ConVault/1994	250
7428	982518	10th SFG Vehicle Maintenance Building	JP-8	5,200	ConVault/1994	5,200
7428	982518	10th SFG Vehicle Maintenance Building	Gasoline	250	ConVault/1994	250
7428	982520	10th SFG Vehicle Maintenance Building	JP-8	10,000	ConVault/1994	10,000
7500	567364	Evans Hospital	Diesel/ gasoline	250/250	ConVault/1992	250/250
7500		Evans Hospital	Diesel	4,000		4,000
7500		Evans Hospital	Diesel	4,000		4,000
7804	809195	Golf Course Maintenance Building	Diesel/ gasoline	1,000/ 1,000	ConVault/1996	1,000/ 1,000
7804	567381	Golf Course Maintenance Building	Used oil	500	ConVault/1992	500
8000	515825	DOL Maintenance Facility	Gasoline	5,200	ConVault/1991	5,200
8000	570720	DOL Maintenance Facility	Diesel	2,000	ConVault/1993	2,000
8000	515653	DOL Maintenance Facility	Diesel	5,200	ConVault/1991	5,200
8000	567394	DOL Maintenance Facility	Used oil	1,000	ConVault/1992	1,000
8000	567469	DOL Maintenance Facility	Used oil	1,000	ConVault/1992	1,000
8000	567472	DOL Maintenance Facility	Used oil	1,000	ConVault/1992	1,000
8000	684347	DOL Maintenance Facility	New lube oil	1,000	ConVault/1993	1,000
8000	684380	DOL Maintenance Facility	New Lube oil	1,000	ConVault/1997	1,000
8000	684358	DOL Maintenance Facility	New lube oil	2,000	ConVault/1993	2,000
8000		DOL Maintenance Facility	Used oil	500		500
8010	684253	Confinement Facility	Diesel	1,000	ConVault/1993	1,000
8030	567227	Division Maintenance Facility	Used oil	1,000	ConVault/1991	1,000
8030	567226	Division Maintenance Facility	Used oil	1,000	ConVault/1991	1,000
8030	515806	Division Maintenance Facility	Used oil	1,000	ConVault/1991	1,000
8030	684379	Division Maintenance Facility	Used oil	1,000	ConVault/1991	1,000
8099	513783	Sewage Pump Station	Diesel	1,000	ConVault/1991	1,000
8099		DOL Maintenance Facility	Used oil	1,000		1,000
8142	567432	68th Support Battalion Maintenance Facility	Used oil	500	ConVault/1992	500
8142	567441	68th Support Battalion Maintenance Facility	Used oil	500	ConVault/1992	500

Building No.	Serial No.	Facility	Sub- stance	Quantity Stored (gal)	Type/Year Installed	Max. Capacity (gal)
8152	567418	68th Support Battalion Motor Pool	Used oil	500	ConVault/1992	500
8152	567435	68th Support Battalion Motor Pool	Used oil	500	ConVault/1992	500
8152	567386	68th Support Battalion Motor Pool	Used oil	500	ConVault/1992	500
8152	567430	68th Support Battalion Motor Pool	Used oil	500	ConVault/1992	500
8200	570317	64th Support Battalion Maintenance Facility	Used oil	1,000	ConVault/1992	1,000
8200	570294	64th Forward Battalion Maintenance Facility	Used oil	1,000	ConVault/1992	1,000
8300	570292	804 th Support Battalion Motor Pool	Used oil	1,000	ConVault/1992	1,000
8472		OMS 5 Maintenance Facility	JP-8	4,000	ConVault	4,000
8472	567380	OMS 5 Maintenance Facility	Used oil	500	ConVault/1992	500
8472	567434	OMS 5 Maintenance Facility	Used oil	500	ConVault/1992	500
8930	570304	Army Reserves Vehicle Maintenance Facility	JP-8	1,000	ConVault/1992	1,000
8930	567279	Army Reserves Vehicle Maintenance Facility	JP-8	500	ConVault/1991	500
8930	491611	Army Reserves Vehicle Maintenance Facility	JP-8	2,000	ConVault/1991	2,000
8930	513026	Army Reserves Vehicle Maintenance Facility	JP-8	2,000	ConVault/1991	2,000
8930	570301	Army Reserves Vehicle Maintenance Facility	JP-8	1,000	ConVault/1992	1,000
8930	567463	Army Reserves Vehicle Maintenance Facility	Used oil	1,000	ConVault/1993	1,000
9072	567468	3/3rd ACR Motor Pool	Used oil	1,000	ConVault/1992	1,000
9072	567395	3/3rd ACR Motor Pool	Used oil	1,000	ConVault/1992	1,000
9248	570475	Hazardous Waste Storage Facility	Used oil	250	ConVault/1992	250
9277	570303	US Naval Reserve Mobile Construction Battalion	Diesel	1,000	ConVault/1992	1,000
9277	567431	US Naval Reserve Mobile Construction Battalion	Used oil	500	ConVault/1992	500
9300	809130	DECAM Wildlife Branch	Diesel	2,000	ConVault/1996	2,000
9300	809129	DECAM Wildlife Branch	Gasoline	2,000	ConVault/1996	2,000
9418	684256	Ammunition Storage Point Office	Diesel	1,000	ConVault/1993	1,000
9551	567440	Range Control	Used oil	500	ConVault/1992	500
9551		Range Control	Diesel	1,000	ConVault	1,000
9551		Range Control	Gasoline	1,000	ConVault	1,000
9602	567242	Air Traffic Control	Diesel	1,000	ConVault/1991	1,000
9604	570736	4/3rd ACR Flight Operations	Used oil	1,000	ConVault/1993	1,000
9609	570327	Heating Plant	Used oil	1,000	ConVault/1992	1,000

Building No.	Serial No.	Facility	Sub- stance	Quantity Stored (gal)	Type/Year Installed	Max. Capacity (gal)
9609	683527	Heating Plant	Fuel oil	5,200	ConVault/1992	5,200
9610	567296	Generator Building	Diesel	500	ConVault/1991	500
9613	567241	Pumphouse	Diesel/ diesel	500/500	ConVault/1991	500/500
9620	683559	Heating Plant	Fuel oil	5,200	ConVault/1992	5,200
9620	570325	4/3rd ACR South Hangar	Used oil	1,000	ConVault/1992	1,000
9628	570324	4th Brigade Motor Pool	Used oil	1,000	ConVault/1992	1,000
9628	570322	4th Brigade Motor Pool	Used oil	1,000	ConVault/1992	1,000
9633	567433	4/3rd ACR Hangar	Used oil	500	ConVault/1992	500
9633	570509	4/3rd ACR Hangar	Gasoline	250/250	ConVault/1992	250/250
9635	570326	4/3rd ACR Maintenance	Used oil	1,000	ConVault/1992	1,000
9733	684260	Ammunition Residue Recycling	Diesel	1,000	ConVault/1993	1,000
10009	684258	Turkey Creek Fire Station	Diesel	1,000	ConVault/1993	1,000
10013	570735	Turkey Creek Ranch	Diesel	1,000	ConVault/1993	1,000
10013	684254	Turkey Creek Ranch	Gasoline	1,000	ConVault/1993	1,000
Butts Sewage	809237	Pump Station	Diesel	500	ConVault/1997	500
Butts Road Sewage	809238	Pump Station	Diesel	500	ConVault/1997	500
MPRC	570748	Range Complex	Diesel	2,000	ConVault/1993	2,000
MPRC	684259	Range Complex	Gasoline	1,000	ConVault/1993	1,000
Range 109	809135	Firing Range	Diesel	1,000	ConVault/1996	1,000
Range 109	809134	Firing Range	Gasoline	1,000	ConVault/1996	1,000
					Total	584,100

Table 4-3
Hazard Identification - Inventory of Fort Carson Mobile Storage/Transfer Units

Building No.	Facility	Mobile Units	Size (gallons)	Substance
501	59 th QM	M969 TANKER	2,000	JP-8
633	DECAM	TANKER TRUCK	1,000	Varies
1382	43 rd ASG	FUEL POD	100-200	JP-8
1382	739 th MP	FUEL POD	300	JP-8
1682	BASE OPERATIONS CONTRACTOR	TANKER TRUCK	300-400	MOGAS & Diesel
1682	BASE OPERATIONS CONTRACTOR	TANKER TRUCK	500	Diesel
1692	4 th ENG	2 M978 (HMMT TRUCK)	2,500 ea.	JP-8
1882	3-29 FA	M978 (HMMT TRUCK)	2,500	JP-8
1982	1-44 ADA	M978 (HMMT TRUCK)	2,500	JP-8
1982	634 th SIG	M978 (HMMT TRUCK)	2,500	JP-8
2082	1-68 INF	M978 (HMMT TRUCK)	2,500	JP-8
2392	1/8 INF	600-GALLON POD ON TRAILER	600	JP-8
2492	1-12 INF	M978 (HMMT TRUCK)	2,500	JP-8
2692	43 rd ACR	6 TPU POD B2 17E 7130	1,100 ea.	JP-8
2792	RHHT	M978 (HMMT TRUCK)	1,000	JP-8
3092	1/3 ACR	6 M978 (HMMT TRUCK)	2,000 ea.	Diesel
3192	2/3 ACR	15 M978 (HMMT TRUCK)	2,000	JP-8
3192	2/3 ACR	4 PODS B2 17E 7130	6,000 ea.	JP-8
8142	183rd MAINT	FUEL POD	400	JP-8
8152	360 th TRANS	M969 TANKER	500	JP-8
8152	32 nd TRANS	M978 (HMMT TANKER)	250	JP-8
8300	MAINTENANCE TROOP	1 POD B2 17E 7130	500	MOGAS
8300	MAINTENANCE TROOP	1 POD B2 17E 7130	500	Diesel
8300	MAINTENANCE TROOP	1.5 TANKER M969A2	5,000	MOGAS
8300	MAINTENANCE TROOP	1.5 TANKER M969A2	5,000	JP-8
8300	89 th CHEM	M978 (HMMT TRUCK)	2,000	JP-8
8300	89 th CHEM	TPU POD	500	JP-8
8930	ECS ARMY RESERVES	M978 (HMMT TRUCK)	2,000	JP-8
9072	3/3 ACR	15 M978 (HMMT TRUCK)	2,000 ea.	JP-8
9628	4/3 ACR	10 PODS B2 17E 7130	500 ea.	JP-8
9628	4/3 ACR	12 M978 (HMMT TRUCK)	2,400 ea.	JP-8

The delivery vendor must employ practices for preventing transfer spills or accidental discharges, and must verify that sufficient capacity is available in the tank prior to filling. He shall be in attendance during all filling operations and monitor all aspects of the delivery, taking immediate action to stop the flow of petroleum in the event of an overfill, equipment failure, or an emergency. Trucks must not move until appropriate valves have been closed, connections have been removed, and all valves, lines, etc., have been secured. Trucks should be examined for leaks prior to departure from the unloading area.

In addition to the unloading of bulk fuels from transportation vehicles, described above, daily operations also include refueling of aircraft and motor vehicles.

Aircraft Refueling

USTs, with steel aboveground lines leading to a bulk bottom feed line, supply JP-8 to tanker trucks used to fuel aircraft at Butts Field. The tankers are manned at fueling points by highly trained military personnel familiar with aircraft refueling procedures. Annual throughput at Butts Airfield is about 50,000 gallons of JP-8.

Service Stations

Fort Carson has two service stations available for refueling private vehicles owned by troops and retired military. An additional station is under construction. These facilities have been upgraded to reduce/eliminate spills during refueling operations. The underground tanks have high-level alarms that are monitored for leaks. The pumps have automatic shutoff valves that turn the pump off when a vehicle tank is full, minimizing the potential for spills. The service stations dispense about 5,737,587 gallons of gasoline per year.

4.1.6 Day-to-Day Operations

Daily operations conducted at Fort Carson primarily involve vehicle maintenance and readiness training for troops and vehicles. The average throughput is approximately 3,500,000 gallons per year.

4.1.7 Secondary Containment

Nearly all of the ASTs at Fort Carson are ConVault tanks with built-in secondary containment. Only 12 ASTs do not have this integral containment: ten tanks containing heating fuel at Building 1860, the heating plant; and two tanks containing diesel fuel for the generators at Building 7500, Evans Hospital. At Building 1860, the ten 40,000-gallon ASTs are located in a concrete containment that can hold the total volume of all the tanks--400,000 gallons. The two

4,000-gallon ASTs at Building 7500, Evans Hospital, are located in a bermed area that can hold 1,000 gallons of spilled petroleum product. The berm area drains into a 6,000-gallon oil-water separator that eventually discharges into a storm drain. The oil-water separator discharge valve is manually controlled and is left in the closed position, providing adequate secondary containment for the tanks.

4.1.8 Normal Daily Throughput

The total normal daily throughput for Fort Carson is estimated to 26,426.3 gallons of POL-related material based on the following:

Butts Airfield 50,000 gallons per year Service stations 5,737,587 gallons per year Maintenance/training 3,500,000 gallons per year Heating oil 360,000 gallons per year 360,000 gallons per year 360,000 gallons per year 365 days = 26,426.265 gallons/day

Any negative or positive change in this quantity will have a negligible effect on potential discharge volumes.

4.2 VULNERABILITY ANALYSIS

This vulnerability analysis addresses the potential effects of an oil or hazardous substance release at Fort Carson to human health, property, or the environment. To analyze potential effects of a release to the environment, information from 40 CFR 112, Appendix C, was used to determine an appropriate planning distance--the distance that spilled oil could travel before it's contained.

Oil and hazardous substance storage at Fort Carson consists of a large number of relatively small-volume storage tanks. Therefore, the likelihood of a major spill (greater than 10,000 gallons), or even a medium spill (between 1,000 and 10,000 gallons), is extremely unlikely and could occur only if several tanks simultaneously began leaking or if a single tank ruptured completely. The probability of a large release is further minimized by Fort Carson's aggressive storage tank upgrade program, which has resulted in the replacement of the majority of older USTs and ASTs with ConVault aboveground storage tanks with built-in secondary containment. In addition, the few storage tanks at the facility that are not ConVault tanks have sufficient secondary containment (the entire contents of the largest tank, plus 10 percent).

The greatest risk of release is from mobile storage tanks used down range during training exercises. Tank trucks, used for refueling of vehicles, accompany personnel and equipment

during exercises. These tanks do not have built-in secondary containment and are often in remote locations, further hampering response activities. In accordance with the site-wide SPCCP, a copy of the Mobile Storage/Transfer portion of the Plan is carried with each tank truck while it is in the field, as well as spill response equipment adequate for controlling a spill.

Potential effects to the environment resulting from a Fort Carson oil or hazardous substance spill are difficult to assess. As shown in Figure 4-1, residential areas, schools, and medical facilities on Fort Carson are generally located in the western portion of the Cantonment Area, upgradient of oil and hazardous substance storage areas. Most of the vehicle maintenance facilities are in the northeast portion of the Cantonment Area. Although this area is adjacent to a threatened-species (prairie dogs) location, all of the oil storage tanks in this area are either ConVault tanks, minimizing the potential for a release, or have secondary containment. There are no water intakes or drinking water wells on Fort Carson that could be impacted by a release, as water supply is provided from upgradient sources by the City of Colorado Springs. Although a spill could result in human health effects to workers in the immediate vicinity of a release, the effects would be minimized due to the expected small size of any spill and the limited potential exposure. Adverse environmental effects will also be minimized by the rapid response provided by properly trained response personnel, as described in Sections 3 and 8 of this document. The highly trained Fort Carson Installation Fire Department Spill Response Team will oversee health and safety efforts in the event of a spill.

Fort Carson encompasses 137,403 acres; the Cantonment Area contains only 9,983 acres. The entire reservation is shown in Figure 4-2. The majority of the facility is used for field training exercises and is drained by numerous creeks and streams. These training areas include a number of fish and wildlife habitats, including several small wetland areas that support a diverse fish and wildlife population. These areas are vulnerable to oil and hazardous material releases during field training exercises because of the transport of fuel in tanker trucks. Streams in the down-range areas are intermittent and, generally, are dry beds. Significant efforts are made to include as few stream crossings as possible during the exercises. When parked, refueling vehicles are instructed to stay away from any stream areas. As previously described, each tanker has spill response materials and the mobile-specific portion of the SPCCP for guidance when transporting fuel. In addition, drivers receive training for spill prevention and response. The proper training of personnel and the availability of spill response equipment will minimize any adverse environmental effects.

Any effect on private property as a result of an oil or hazardous substance spill at Fort Carson is likely to be relatively minor, as all storage areas are located well within the confines of Fort Carson. There is some potential for drainage to private property, however, if a spill were to enter a waterway and be transported offsite. All of the small streams and creeks near oil and hazardous substance storage areas drain east-southeast to Fountain Creek. Fountain Creek flows south, eventually discharging into the Arkansas River near Pueblo, Colorado. The planning distance was calculated from the formulas provided in Appendix C of 40 CFR 112. The following information and assumptions were used to calculate the planning distance:

- It was assumed that an oil or hazardous substance release from Fort Carson would empty directly into Fountain Creek. This was assumed as the most conservative approach, because most streams on Fort Carson are intermittent. Fountain Creek is a perennial stream.
- The slope of Fountain Creek (0.0059) was determined from Fort Carson Military Installation Map V777S, Edition 3-DMA.
- Average mid-channel depth of Fountain Creek is 1 foot (Base personnel). There are no surface water intakes on Fountain Creek.

A planning distance of 9 miles was calculated and potential effects of an oil or hazardous substance release within that planning distance was evaluated. The calculation for the planning distance is found in Appendix B.

4.3 ANALYSIS OF THE POTENTIAL FOR AN OIL SPILL

The potential for an oil or hazardous substance spill at Fort Carson is relatively high due to the large number of storage locations and the large number of people with access to the storage areas. The potential for either large or medium spills, however, is relatively minor due to Fort Carson's aggressive tank replacement projects, secondary containment for storage tanks, and the spill training provided to Fort Carson personnel.

The vulnerability of Fort Carson to a natural disaster is negligible. Based on the Uniform Building Code National Seismic Map, the facility is in a very-low to low-risk area for an earth-quake. It is also in a low-risk area for tornados. Flash floods are possible, but have previously been controlled through adequate drainage channels. No other natural disasters are likely. Additionally, because of the visibility of the ConVault tanks, the number of personnel in the vicinity of the tanks, and the diligence of security personnel, the possibility of a leak extending beyond a

few feet is highly unlikely. Because much of the facility is extremely flat, leaks would not travel any great distance.

4.4 FACILITY REPORTABLE OIL SPILL HISTORY

Four reportable spills have occurred at Fort Carson since 1998. All of the spills were less than 50 gallons and therefore are classified as minor spills. None of the spills reached surface water. Table 4-4 presents the reported spill history since 1998.

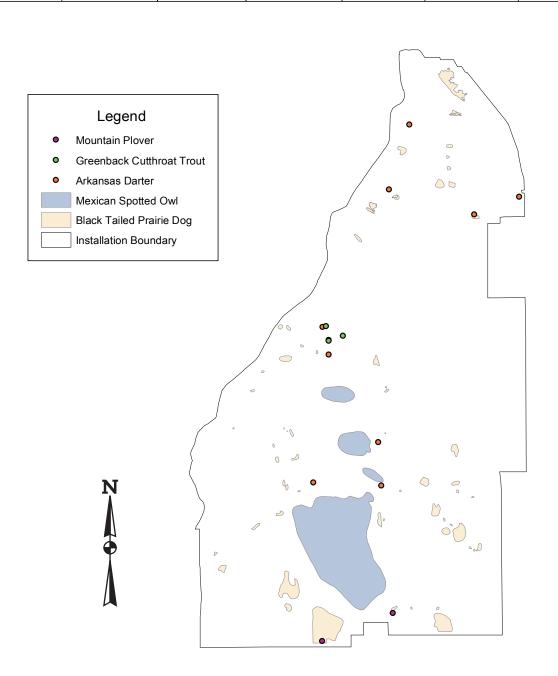
Table 4-4 Spill History

Discharger: Organization, Address	Date of Spill	Location	Substance Released	Quantity Spilled (gal)	Waterway Affected	Corrective Action	Actions to Prevent Recurrence
Fort Carson 7th Infantry Division Fort Carson, CO	4/20/98	Tevis Street	Unknown oil	5	None	Cleaned up	Increased awareness; training
Fort Carson 7th Infantry Division Fort Carson, CO	7/14/98	Bldg. 1682	Jet fuel: JP-8	25	None	Cleaned up	Conduct valve inspections; training
Fort Carson 7th Infantry Division Fort Carson, CO	12/11/98	Bldg. 1395 (FOS Bldg.)	Oil, misc: motor	10	None	Cleaned up	Increased awareness; training
Fort Carson 7th Infantry Division Fort Carson, CO	10/12/99	Bldg. 1882	Hydraulic oil	5	None	Cleaned up	Inspect lines more frequently

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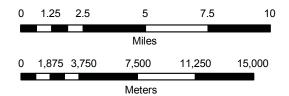


FIGURE 4-2 FORT CARSON INSTALLATION MAP

PREPARED FOR

FORT CARSON FORT CARSON, COLORADO



This section provides a description of the facility's worst-case discharge, as well as a small and medium spill, as appropriate. A multilevel planning approach has been chosen because response actions to a spill (i.e., necessary response equipment, products, and personnel) are dependent upon the magnitude of the spill. Planning for lesser discharges is necessary because the nature of the response may be qualitatively different depending on the quantity of the discharge. This section also includes a discussion on the potential direction of the spill pathway.

Below are definitions for small, medium, and worst-case discharges, according to 40 CFR 112:

- **Small discharge** Any discharge volume less than or equal to 2,100 gallons, but not to exceed the calculated worst-case discharge.
- **Medium discharge** Any discharge volume greater than 2,100 gallons and less than or equal to 36,000 gallons, or 10 percent of the worst-case discharge, whichever is less, provided that this amount is less than the worst-case discharge amount.
- Worst-case discharge For an onshore, nontransportation-related facility, the largest foreseeable discharge in adverse weather conditions as determined using the worksheets provided in 40 CFR 112 Appendix D.

5.1 SMALL AND MEDIUM DISCHARGES

This section provides a discussion of the potential for a small or medium discharge of oil or hazardous substances on Fort Carson, as well as the factors that could potentially delay response to a discharge of this type.

5.1.1 Facility-Specific Spill Scenarios

Facility-specific spill scenarios that could result in a small or medium discharge of oil or hazardous substances at Fort Carson include:

- Discharge during oil or hazardous substance resupply
- Discharge during maintenance of oil or hazardous substance storage tanks and piping
- Discharge during vehicle refueling
- Discharge due to vehicle collision with oil or hazardous substance transport equipment during field exercises
- Discharge due to age and condition of storage equipment
- Discharge due to vehicle collision with oil or hazardous substance storage equipment.

The first four scenarios are situations most likely to occur at Fort Carson, and would generally be a result of inattentive operators or faulty equipment. The last two scenarios are less likely to occur as Fort Carson is in the process of upgrading or replacing all storage tanks with ConVaults, which are highly resistant to damage from vehicle impact.

5.1.2 Factors That Affect Response Efforts

Response to small or medium discharges of oil or hazardous substances at Fort Carson could be affected by:

- Size of the spill Fort Carson maintains sufficient spill response personnel and equipment to respond to small and medium discharges of oil or hazardous substances. In accordance with the regulations presented in 40 CFR 112 Appendix E, Fort Carson maintains at least 1,000 feet of adsorbent boom, recovery pumping capacity of at least 2,100 gallons per day, and temporary storage capacity of 4,200 gallons per day. The Fort Carson Fire Department maintains a variety of recovery pumps with capacities as high as 60 gallons per minute (86,400 gallons per day). In addition, the Fort Carson Fire Department has two 600-gallon storage tanks immediately available and has access to additional tankage using facility tankers.
- Proximity to down gradient wells, waterways, and drinking water intakes No drinking water supplies (wells or surface intakes) will be affected by a small or medium discharge because there are no downgradient wells or drinking water intakes in the vicinity of Fort Carson.
- Proximity to fish and wildlife and sensitive environments There is a chance that response could be affected by proximity to a waterway, as there are numerous small waterways in the vicinity of oil and hazardous substances storage areas. However, training of spill response personnel focuses on measures that prevent a discharge from entering surface waterways. There are several proposed endangered species areas within the installation; however, the proximity of these areas to the oil storage areas is such that a small or medium release is not expected to affect them.
- **Likelihood of discharge traveling offsite** There is little likelihood that a small or medium discharge from Fort Carson would travel offsite, as Fort Carson storage areas are generally located a good distance from site boundaries.
- **Spill location** Spill location will affect spill response. Spills in the operational area will allow quicker response and be more accessible to response equipment. Response would be more difficult to a release that may occur during a field exercise; however, access is not expected to be a significant problem.
- **Material discharged** The type of material discharged is not likely to delay response, as Fort Carson generally stores only common fuels in large quantities.

- Weather conditions Weather conditions are not likely to cause delays in response to oil or hazardous substance discharges, as all Fort Carson personnel train in adverse weather conditions to minimize weather impacts to military missions.
- Available remediation equipment Remediation equipment is readily available and spill response personnel are trained in the deployment of the equipment. Equipment availability and proper training will enhance the response and limit the adverse effect on the environment.
- **Probability of a chain reaction of failures** Chain reaction of failure is not believed to have a significant probability of occurring. This conclusion is based on the type of storage and regular maintenance practices implemented by Fort Carson personnel.
- **Direction of spill pathway** The direction of spill pathway will have little affect on response. The base and environs are accessible for response equipment.

5.2 WORST-CASE DISCHARGE

This section provides a discussion of the potential for a worst-case discharge of oil or hazardous substances on Fort Carson, as well as the factors that could potentially delay response to a discharge of this type.

5.2.1 Worst-Case Discharge Volume

The worst-case discharge volume at Fort Carson, as calculated from formulas provided in 40 CFR 112 Appendix D, is 40,000 gallons. This volume is a sum of the total aboveground oil storage without secondary containment plus the volume of the largest single oil storage volume with secondary containment. All Convaults on Fort Carson have adequate integral secondary containment.

5.2.2 Facility-Specific Spill Scenarios

Facility-specific spill scenarios that could result in a worst-case discharge of oil or hazardous substances at Fort Carson are: 1) catastrophic failure of a storage tank due to old age and poor condition, which is extremely unlikely; and 2) vehicle collision with a storage tank, which is also very unlikely due to tank construction and existing in-place protective measures (i.e., bollards). The most likely scenario is the collision of a mobile fuel tanker with another vehicle during field training exercises.

5.2.3 Factors That Affect Response Efforts

Response to a worst-case discharge of oil or hazardous substances at Fort Carson could be affected by the same factors addressed in Section 5.1.2. Availability of remediation equipment

will adversely affect response ability. Response equipment available at Fort Carson is more appropriate for responding to and controlling small and medium discharges. For large discharges, Fort Carson has established a reciprocal agreement with the City of Colorado Springs to assist with spill response. However, response time from the City of Colorado Springs is well within the response times listed for Tier I response time.

The greatest potential for off-site migration of a worst-case scenario is a discharge that reaches Fountain Creek via the storm sewers. Rapid deployment of adsorbent booms to B-Ditch and R-Ditch is critical to reducing the probability of spilled material reaching Fountain Creek. Equipment deployment to the two ditches is an integral part of the spill training exercises.

This section of the FRP describes procedures and equipment used to detect discharges. Spill detection by personnel and automated spill detection, as applicable, are included for both regular operations and after hours operation.

6.1 DISCHARGE DETECTION BY PERSONNEL

Because of its size, Fort Carson relies on the individuals in each unit to be responsible for detecting spills. The Environmental Protection Officer (EPO) for each unit is assigned the responsibility of conducting monthly inspections of his/her facility for malfunctions or deterioration of equipment that may lead to the release of POL or hazardous substances to the environment. These inspections are recorded in an inspection log and become a part of the unit SPCCP. Detailed inspection guidelines are included in Section 8.4 of the Fort Carson SPCCP and also discussed in Section 8 of this document. Unit specific inspections may also be developed, within the unit, depending upon circumstances.

The ConVault ASTs greatly improve the visibility of the tanks for inspection. Each tank rests a minimum of 4 inches above ground level on concrete support legs that permit complete visual inspection. Seals, valves, and piping outside the tank containment area are in plain view of facility employees. Visible piping, seals, and valves associated with the ASTs are also inspected. All inspections include written notations of observations made and the date and nature of any repairs or other remedial actions that need to be taken.

In addition to the monthly, formal inspections, each individual in the unit is responsible for immediately reporting any leak or spill of POL and/or hazardous substances. All storage facilities are located in work areas that are occupied during normal work hours. As discussed in Section 3.0, Emergency Response Information, in the event of a POL or hazardous substance discharge during work hours that cannot be handled by the unit, or if unsure of the proper response, personnel are trained to immediately call 911 to reach the Fort Carson Fire Department's Spill Response Team. The Emergency Notification Telephone List (Subsection 3.1.1) is posted in all work locations. During non-work hours, Fort Carson's military police periodically patrol work locations and are trained to immediately report any oil or hazardous substance discharge to the Fort Carson Fire Department's Spill Response Team.

6.2 AUTOMATED DISCHARGE DETECTION

A number of automated systems are in place at Fort Carson. Some are used to prevent overfilling, while others are used to detect leaks.

- The ConVault ASTs are equipped with automated systems to handle both overfilling and to detect leaks. A high performance, 30-mil high-density, polyethylene membrane encloses the primary tank, providing secondary containment within the concrete encasement. A detection alarm sounds if a leak occurs and a manual safety valve prevents overfill. A 7-gallon containment basin provides added protection against accidental spills.
- The gasoline pumps at the service stations have an automatic shutoff device located on the nozzle. The sensors on the nozzle detect gas in the fill pipe and shut the pump off. In addition, users are instructed not to leave the immediate area when using the nozzles.
- All of the underground tanks have been upgraded to 1998 standards, including spill and
 overfill protection. Spill prevention equipment was installed that will prevent release of
 product to the environment when the transfer hose is detached from the fill pipe. Overfill
 equipment includes automatic shut off, flow restriction devices, or high-level alarm
 triggers. Release detection systems can detect a release from any portion of the tank and
 underground piping. In addition, all upgrades were installed in accordance with
 manufacturer's instructions by qualified UST installers and certified in accordance with
 Federal and State regulations.

The equipment is maintained in accordance with manufacturer's recommendations by onsite contractor personnel.

No leak detection alarms have been reported at Fort Carson. Should any alarms occur during regular work hours, the source of the alarm would be immediately reported to DECAM. Alarms that might occur during non-work hours would be reported to the Fort Carson Fire Department Spill Response Team by the military police on patrol. The equipment would be thoroughly inspected to determine the source of the alarm and the contractor for the equipment would be notified. If a spill is verified, notification procedures as described in Section 3.1.1 are followed.

This section presents detailed information on implementing Fort Carson's FRP. It also discusses the accessibility of spill response equipment, disposal plans, and containment and drainage planning. All figures referenced within this section are presented at the end of this section.

7.1 SPILL RESPONSE RESOURCES FOR SMALL, MEDIUM, AND WORST-CASE DISCHARGES

Each unit at Fort Carson has spill control equipment ready and available to respond to small spills. Safety and emergency equipment, security devices, and operating and structural equipment are regularly inspected on a schedule determined by each unit. In addition, all of the equipment identified in Figure 3-3 is kept ready and available by the Fort Carson Fire Department to respond to a POL or hazardous substance spill. This equipment has been selected for its applicability and capability to handle spills at Fort Carson. The Fort Carson emergency response personnel identified in Figure 3-5 are ready and capable of responding to all spills at Fort Carson.

In the event that resources in addition to the Fort Carson Fire Department are needed to control a release, Fort Carson has negotiated an agreement with the City of Colorado Springs to provide mutual emergency response assistance. The Fire Department will contact the City of Colorado Springs for additional help.

40 CFR 112 Appendix E provides guidelines for identification of response resources for small, medium, and worst-case discharges. Based on the guidelines provided in Appendix E, the following equipment is required:

Small discharge (2,100 gallons):

- 1,000 feet of boom that can be deployed within 1 hour
- 2,100-gallon-per-day recovery capacity
- 4,200-gallon-per-day storage capacity

Medium discharge (4,000 gallons):

- Recovery capacity equal to 50 percent of the medium discharge volume = 2,000 gallons per day
- Temporary storage capacity equal to two times the recovery capacity = 4,000 gallons per day
- Equipment available to be on site in no more than 12 hours

Worst-case discharge (barrels per day):

	Tier I	Tier II	Tier III
Oil recovery capacity	86	114	171
Contracted on water response capacity	1,900	3,750	7,500
Identified on water response capacity	1,800	3,600	7,300

Because the largest recorded spill at Fort Carson within the past three years has been 25 gallons, a "lessons-learned" review and update has not been required. Fort Carson has a cooperative agreement with the City of Colorado Springs Fire Department for spill response. The Fire Department is the federally Designated Emergency Response Agency for the city. To fulfill this critical responsibility, the Fire Department maintains a fully staffed and trained HAZMAT team. Should a large spill take place, however, a review of the entire operation would take place upon resolution of the spill to evaluate the effectiveness and efficiency of the current plan.

7.1.1 Unit Spill Response Actions

A diagram outlining initial unit spill response actions is presented in Figures 7-1 and 7-2. These figures are posted near each unit's spill response materials storage area.

7.1.2 Installation Fire Department Spill Response Actions

When notified of a POL spill on Fort Carson, the Installation Fire Department Spill Response Team will immediately respond to the spill location. Initial response steps are taken to prevent any additional spillage, to prevent the spill from entering drains or storm ditches, and to contain the spill if possible. If the spill exceeds 100 gallons or if the spill has entered a drain or storm ditch, the Installation Fire Department Spill Response Team Commander will immediately notify the DECAM IOSC or designee. The Fire Department will then follow the procedures outlined in Figure 7-3.

7.1.3 DECAM IOSC Spill Response Actions

When notified of a POL or hazardous substance release to a drain or storm ditch, the DECAM IOSC, or designee, will be available for technical assistance. The DECAM IOSC in all instances will be responsible for initiating state and federal notification procedures. The DECAM IOSC has full authority to implement removal actions.

7.2 DISPOSAL PLANS

Once a release has been contained and the material collected, plans must be made to dispose of any contaminated waste. Disposal of all spill-related wastes will be coordinated through the DECAM Hazardous Waste Management Branch and conducted by specialists in that area in

accordance with Federal, State, local, and Fort Carson regulations. If temporary storage of spill-related wastes is required, the materials will be stored at the Fort Carson Hazardous Waste Storage Facility. The following identifies usual disposal actions for the materials listed:

- **Recovered Product** Turned over to DECAM and disposed of as a hazardous waste (often incinerated or recycled). A JP-8 fuel reclaimer is currently being tested.
- Contaminated Soil Depending upon material spilled, either turned over to DECAM and disposed of as a hazardous waste or air stripped as per Fort Carson air permit.
- Contaminated Equipment and Materials Decontaminated on site by cleaning (cleaning liquid contained and disposed of as a hazardous waste) or disposed of in an approved landfill (i.e., brooms, filters, etc.)
- **Personal Protective Equipment** Turned over to DECAM and disposed of as a hazardous waste.
- **Decontamination Solutions** Turned over to DECAM and disposed of as a hazardous waste.
- **Adsorbents** Depending upon material spilled, either disposed of as a hazardous waste or taken to landfill and air stripped as per Fort Carson air permit.
- Spent Chemicals Turned over to DECAM and disposed of as a hazardous waste.

7.3 CONTAINMENT AND DRAINAGE PLANNING

Fort Carson does not currently have a formal spill containment and drainage plan because of the large number of relatively small storage tanks. Storm drains and drainage patterns are included on the individual drawings in Section 9 of this plan. These drawings can be used for containment and drainage planning should a spill occur. Additionally, a large, fold-out map of the storm drainage system is included in Section 1.

All storm sewers, as well as the various drainage channels throughout the base, discharge to B-Ditch or to I-Ditch. Both of these major ditches discharge to Fountain Creek, east of Fort Carson, beyond the base boundary. If needed, booms can be placed at any location in these ditches.

All wash racks, etc., associated with the maintenance facilities discharge to oil/water separators and to the Fort Carson industrial wastewater treatment system. The treated water then discharges into I-Ditch. There are no surface water bodies in the containment area. Fishing lakes in the outer areas of the base are non-discharging and are unlikely to be affected by a spill. Should major containment be necessary, DECAM has a variety of earth-moving machinery (bull dozers, graders, etc.) and three trained operators.

Figure 7-1 Oil Spill Response Procedures

- 1. Stop the product flow. Without endangering personnel health and safety, prevent any further POL spillage.
- 2. Use onsite spill response materials to minimize or prevent the POL spill from entering a drain or storm ditch.

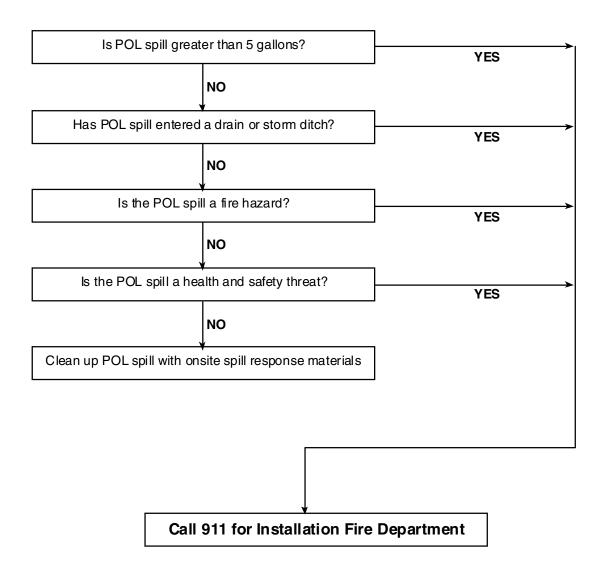


Figure 7-2 Hazardous Substance Spill Response Procedures

- 1. Stop the product flow. Without endangering personnel health and safety, prevent any further hazardous substance spillage.
- 2. Use onsite spill response materials (if appropriate as per MSDS instructions) to minimize or prevent the hazardous substance spill from entering a drain or storm ditch.

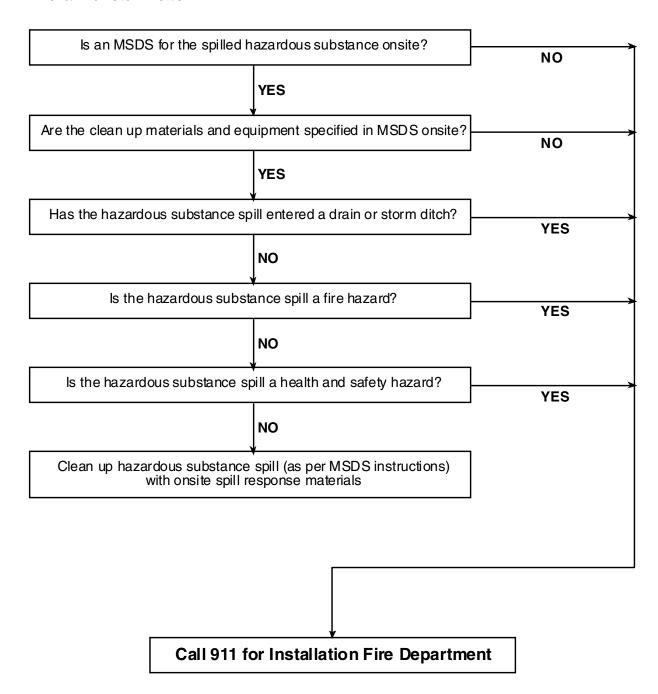
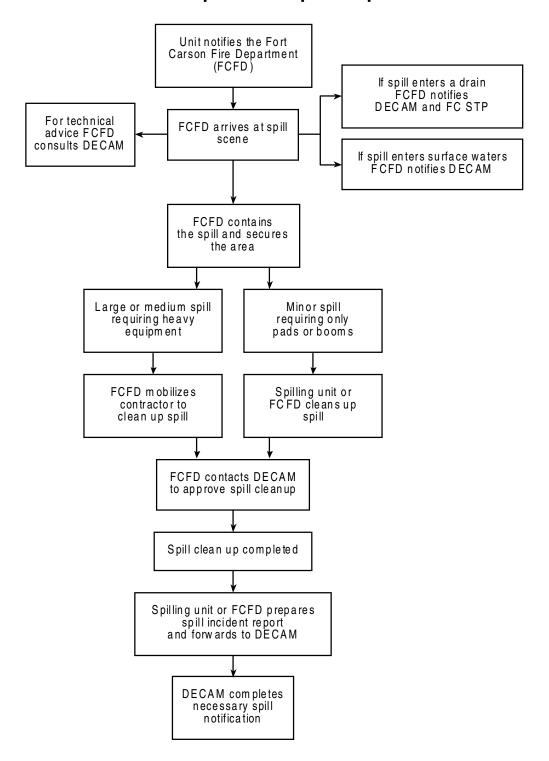


Figure 7-3
Fort Carson Fire Department Spill Response Procedures



This section presents the procedures for facility inspections and spill response training at Fort Carson. This information supplements information provided in the Fort Carson SPCCP. All figures referenced within this section are presented at the end of this section.

8.1 FACILITY SELF-INSPECTION

Inspections will be conducted in accordance with written procedures developed for the facility by the unit. These written procedures and a record of the inspections, signed by the appropriate supervisor or inspector, are made a part of the site SPCCP. Written procedures for the inspections and recordkeeping requirements will follow the guidelines listed below and will be attached to the appropriate inspection record:

- Each facility operator will conduct frequent inspections of his/her facility for malfunctions and deterioration of equipment, operator errors, and discharges which may be causing or may lead to the release of POL or hazardous substance to the environment, thereby posing a threat to human health.
- Inspections will be conducted monthly by the units. This frequency is based on the rate of possible deterioration of the equipment and the probability of an environmental or human health incident if the deterioration or malfunction of any equipment or operator error goes undetected between inspections.
- Each unit must identify all problems and correct deficiencies immediately in order to avoid any harm to human health or the environment.
- Each unit will develop, follow, and maintain within their facility a written schedule for inspecting monitoring equipment, safety and emergency equipment, security devices, and operating and structural equipment necessary tp prevent, detect, or respond to environmental or human health hazards. The schedule must identify all deficiencies encountered during the inspection and remedial actions implemented to correct the problems.
- All inspections must be recorded in an inspection log and must include, at a minimum, the date and time of the inspection, the name of the inspector, a notation of the observations made, and the date and nature of any repairs or other remedial actions taken.
- Inspection records are retained for at least 5 years from the date of inspection.
- Inspections of procedures and pertinent records may be conducted periodically or at any time by the DECAM or by proper state or federal authorities in conjunction with the DECAM.

All underground storage tanks will be gauged for quantity on a daily basis and the results recorded in the unit inventory log. Any noticeable decrease or increase in quantity indicates leakage out or into the tank. If product is added or removed between gauge checks any discrepancy between the gauged quantity and the calculated quantity may indicate leakage. All suspected leaks should be reported to the DECAM at 526-8004 and the DPW for initiation of cleaning, inspection and needed repairs on a DA form 4283-R, Facilities Engineer Work Request.

8.1.1 Tank Inspections

DECAM will conduct tank inspections at Fort Carson. A tank visual inspection checklist is provided as Figure 8-1.

8.1.2 Response Equipment Inspection

Response equipment listed in Subsection 3.2 of this Plan will be inspected at least annually by the Installation Fire Department Response Team. The recommended unit response equipment will be checked on a schedule developed by the unit that ensures spill response equipment is available and ready. A Response Equipment Inspection Log is provided in Figure 8-2.

8.1.3 Secondary Containment Inspections

DECAM will conduct secondary containment inspections at Fort Carson. A secondary containment visual inspection checklist is provided as Figure 8-3. There are no retention ponds or drainage ponds used as secondary containment at Fort Carson.

8.2 FACILITY DRILLS/EXERCISES

Fort Carson has developed a facility response drill/exercise program to test the effectiveness of the SPCCP and FRP. At a minimum, one simulated spill is conducted each year to test the effectiveness and response of the Installation Response Team. The Fort Carson response drill/exercise program consists of internal drills/exercises, including qualified individual notification drills, spill management team tabletop exercises, equipment development exercises, and unannounced exercises, as well as external exercises. During a drill, the Fire Department Training Department and senior members of the response team watch and critique procedures/actions. Following the drill, an evaluation is conducted with drill participants. DECAM personnel meet monthly, or more often if needed, to discuss training objectives and to evaluate training and operational goals.

8.2.1 Qualified Individual Notification Drill

Fort Carson conducts a Qualified Individual Notification Drill at least annually to ensure that the Qualified Individual is able to be reached in a spill response emergency to carry out his/her

duties. The Fort Carson Fire Department randomly selects a facility to simulate an oil or hazardous substance release and to test the facility's response up to and including notification of the Qualified Individual. The Fort Carson Fire Department notes the results of the drill on the Fort Carson Spill Response Drill/Exercise Log (Figure 8-4). Copies of the completed log are immediately forwarded to the DECAM.

8.2.2 Spill Management Team Tabletop Exercise

Fort Carson conducts a Spill Management Team Tabletop Exercise at least annually to develop improved coordination within the Spill Management Team. The Fort Carson Spill Management Team consists of appropriate representatives from DECAM and the Installation Fire Department Spill Response Team. The exercises consist of evaluating Fort Carson's spill scenarios and appropriate responses to each spill scenario to ensure the Spill Management Team is familiar with the response plan and is able to use it effectively to conduct a spill response. The Fort Carson Fire Department records the results of the exercise on the Fort Carson Spill Response Drill/Exercise Log (Figure 8-4). Copies of the completed log are forwarded to the DECAM.

8.2.3 Equipment Deployment Exercises

The Installation Fire Department Spill Response Team conducts an equipment deployment exercise at least annually, scheduled immediately following the response equipment inspection. The equipment deployment exercise ensures that personnel who normally operate or supervise the operation of response equipment demonstrate their ability to deploy and operate the equipment. It also ensures the equipment is in good operating condition and is appropriate for the intended operating environment. Performance of the equipment deployment exercise will be noted on the Fort Carson Spill Response Drill/Exercise Log (Figure 8-4). Copies of the completed log are forwarded to the DECAM.

8.2.4 Unannounced Exercises

Fort Carson conducts unannounced exercises at least annually to test facility spill response procedures. The Fort Carson Fire Department will randomly select a facility to simulate an oil or hazardous substance release and to test Fort Carson's response to the spill. Results of the exercise are recorded on the Fort Carson Spill Response Drill/Exercise Log (Figure 8-4). Copies of the completed log are forwarded to the DECAM.

8.2.5 External Exercises

Fort Carson will conduct an external spill response exercise at least once every three years to test spill response coordination between Fort Carson and the City of Colorado Springs. The Fort

Carson Fire Department will record results of the exercise on the Fort Carson Spill Response Drill/Exercise Log (Figure 8-4). Copies of the completed log are forwarded to the DECAM.

8.3 RESPONSE TRAINING

Fort Carson has developed a spill response training program to ensure that all spill response personnel are trained in accordance with AR 200-1, OSHA CFR 1910-120, and NFPA 472. Personnel must successfully complete a program of formal classroom instruction and supervised on-the-job training to prepare them to operate and maintain the facility. Each service member and employee learns about the POL or hazardous materials typically stored or generated at their work site and the storage requirements for that substance. On-the-job training, as applicable to their position, includes:

- Location and use of emergency equipment
- Basic hazardous material/waste storage policies
- Inspections and procedures for correcting inadequacies
- Emergency procedures specified in the SPCCP and Contingency Plan, such as spill response, fire response, or explosives response
- Inspection of emergency and monitoring equipment
- Replacement of equipment(if necessary) after an exercise or emergency is over
- Communications and alarm systems; emergency telephone numbers to be used.

The training frequency and techniques utilized at Fort Carson ensure that personnel are fully trained in emergency response. Records documenting the employee names and completed training programs (both introductory and review) are kept at the facility.

8.3.1 Personnel Spill Response Training Logs

The Installation Fire Department Spill Response Team maintains personnel spill response training records on a Personnel Spill Response Training Log, such as presented in Figure 8-5. Copies of the completed log are forwarded to the DECAM.

8.3.2 Discharge Prevention Meeting Logs

Fort Carson conducts discharge prevention meetings at least annually and DECAM records the results of the meetings on the Discharge Prevention Meeting Log (Figure 8-6). Meeting attendees include DECAM personnel, Installation Fire Department Spill Response Team personnel, and representatives from individual facility operators, as appropriate.

Figure 8-1 Tank Visual Inspection Checklist

Tank Number	
-------------	--

			
1.	Check tanks for leaks		
	a. Drip marks	yes	no
	b. Discoloration of tanks		no
	c. Puddles containing material	yes	no
	d. Corrosion	yes	no
	e. Cracks	yes	no
	f. Localized dead vegetation	yes	no
2.	Check foundation for		
	a. Cracks	yes	no
	b. Discoloration	yes	no
	c. Puddles containing material	yes	no
	d. Settling	yes	no
	e. Gaps between tank and foundation	n yes	no
	f. Damage caused by vegetation	yes	no
3.	Check piping for		
	a. Droplets of stored material	yes	no
	b. Discoloration	yes	no
	c. Corrosion	yes	no
	d. Bowing of pipe	yes	no
	e. Evidence of seepage from valves		
	or seals		no
	f. Dead vegetation	yes	no
ns	spector signature:		
Эα	te:		
Со	omments:		

Figure 8-2 Response Equipment Inspection Log

			Shelf	Last Used/	
Equipment	Quantity	Condition	Life	Tested	Comments
A. HAZMAT Van					
Decon pool pumps					
Sorbent pads					
Clay granules					
Sorbent powder					
Brass shovels					
Brass scoop shovels					
Bolt cutters					
Sledge hammer					
Tool boxes (miscellaneous)					
Brass rakes					
Brooms					
Ladder					
Miscellaneous coveralls					
Miscellaneous boots					
Miscellaneous gloves					
Hard hats					
Air-purifying respirators					
Respirator cartridges					
Air packs					
Gas detectors					
B. Recommended Unit					
Response Materials					
12-gal/min (36-lmp) hand pump					
Shovel					
Broom, push, straw, heavy duty					
Handles					
Oil sorbent compound					
Vermiculate [20-lb (9-kg) bag)]					
Drum assemblies (overpack					
19-gal) (72-liter)					
Drum assemblies (overpack					
30-gal) (114-liter)					
55- or 57-gal (209- or 217-liter)			_		
overpacks					
Drum assemblies (overpack					
85-gal)					

Inspector:	 	
Date:	 	
Comments:		

Figure 8-3 Secondary Containment Inspection Checklist

_	i ke or berm system		
a.	Water in the diked area?	yes	no
	Quantity		
b.	Do the drain valves work?	yes	no
c.	Holes or cracks in the dike/berm?	yes	no
d.	Debris in the diked area?	yes	no
e.	Signs of erosion?	yes	no
f.	Holes or cracks in the floor?	yes	no
2. Se	econdary containment		
a.	Cracks or holes?	yes	no
b.	Discoloration?	yes	no
c.	Free standing liquid?	yes	no
	Product or water		
d.	Corroded?	yes	no
e.	Valve in good condition?	yes	no

Figure 8-4 Spill Response Drill/Exercise Log

Date:	
Organization/Company:	
Qualified Individual:	
Exercise Type (Check Type):	Qualified Individual Notification Drill
	Spill Management Team Tabletop Exercise
	Equipment Deployment Exercise
	Unannounced Exercise
	External Exercise
Emergency Scenario:	
Evaluation:	
Changes to be Implemented:	
Time Table for Implementation	1:
	•

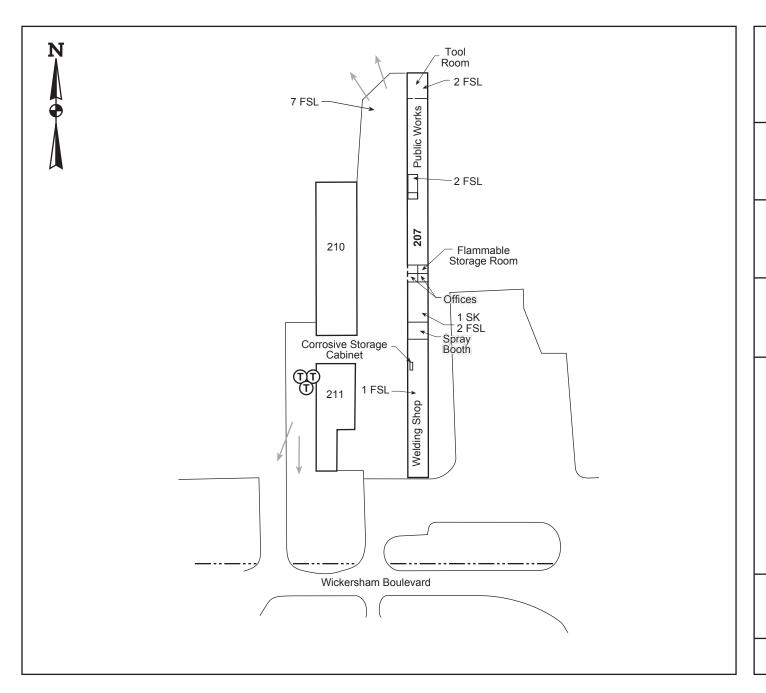
Figure 8-5 Personnel Spill Response Training Log

Name	Response Training	Date and Number of Hours	Prevention Training	Date and Number of Hours
Hame	rranning	Humber of flours	Training	Number of flours
		1		

Figure 8-6 Discharge Prevention Meeting Log

General Information		
Date:		
Meeting Attendees/Organization:		
Subject/Issue Identified	Required Action	Implementation Date

Unit-specific diagrams that show the locations of oil and hazardous substance storage locations and site drainage are included in this section and in the Fort Carson SPCCP. Site evacuation diagrams are not included, as evacuation is extremely unlikely and military police will handle evacuation, if necessary.



Building 207 Public Works Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

FSL Flammable Storage Locker

SK Spill Kit

X X Fence

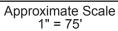
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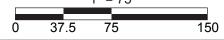
Pad-Mounted Transformer

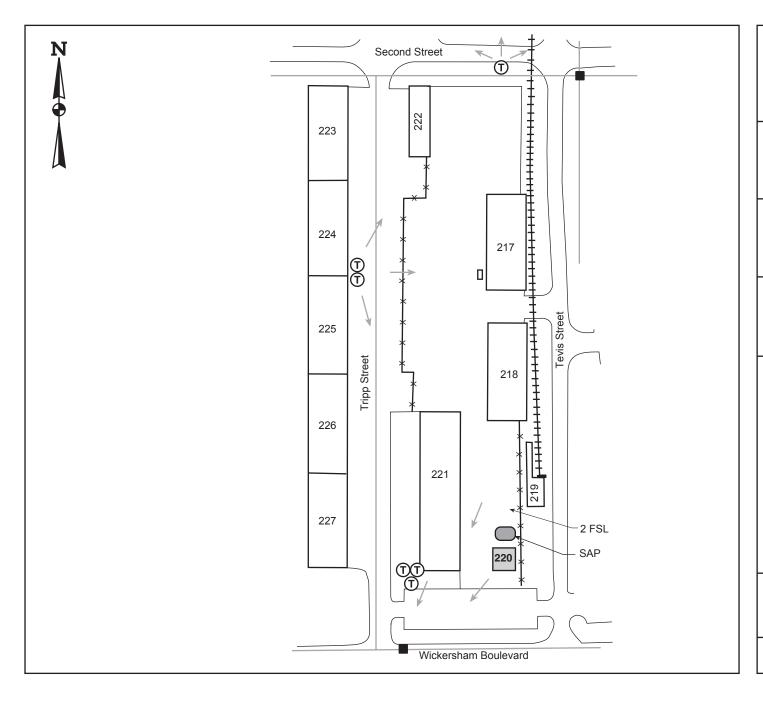
Storm Drain

---- Drainage Ditch/Culvert

Direction of Flow







Building 220 Base Operations Contractor Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

FSL Flammable Storage Locker

SK Spill Kit

X X Fence

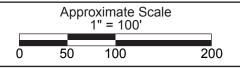
(T) Pole-Mounted Transformer

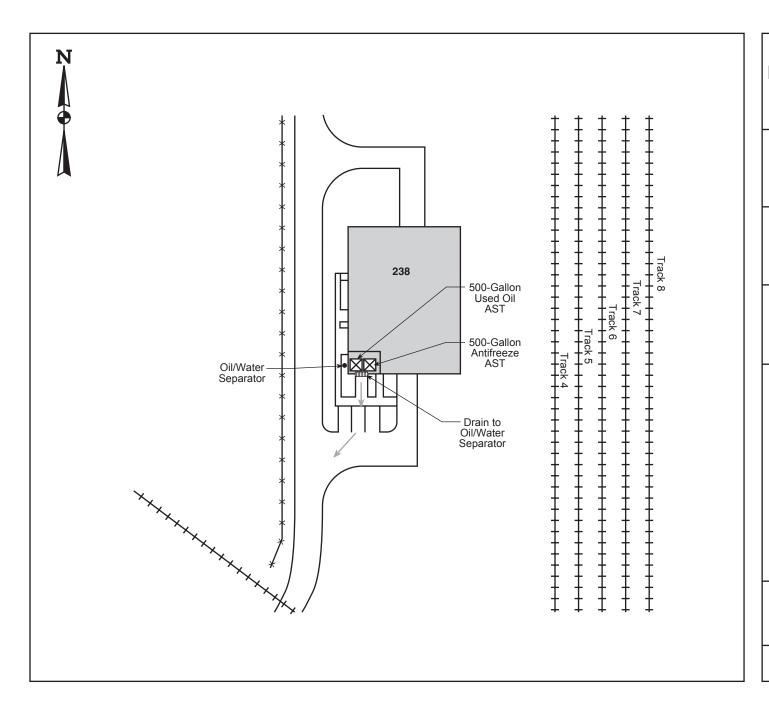
Storm Drain

Storm Sewer Line

Direction of Flow

) Satellite Accumulation Point





Building 238 Engine Maintenance Building Fort Carson, CO

Hazardous Materials Inventory

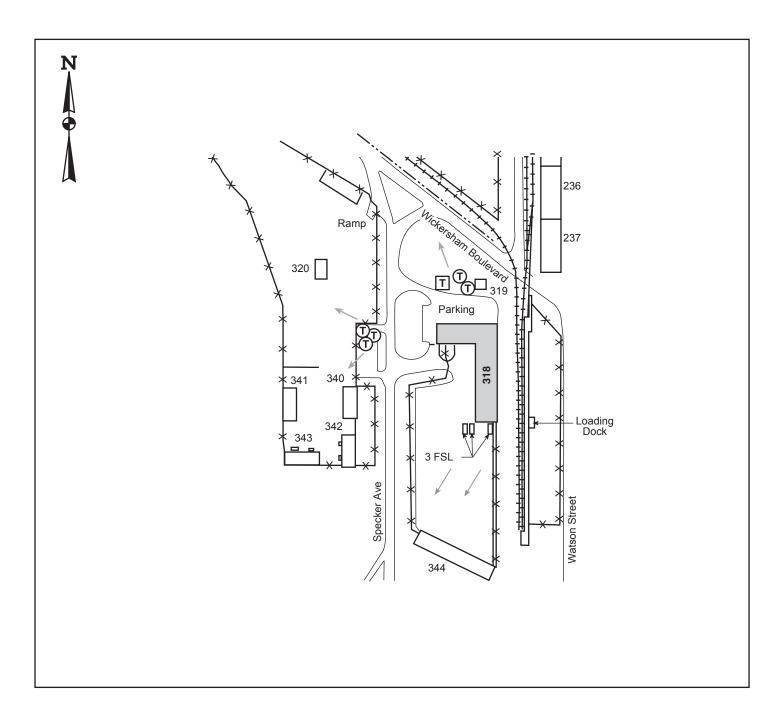
> Storage Location Map



X X Fence

Direction of Flow

Not to Scale



Building 318 DRMO Salvage and Material Segregation Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

FSL Flammable Storage Locker

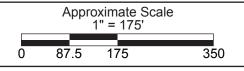
X X Fence

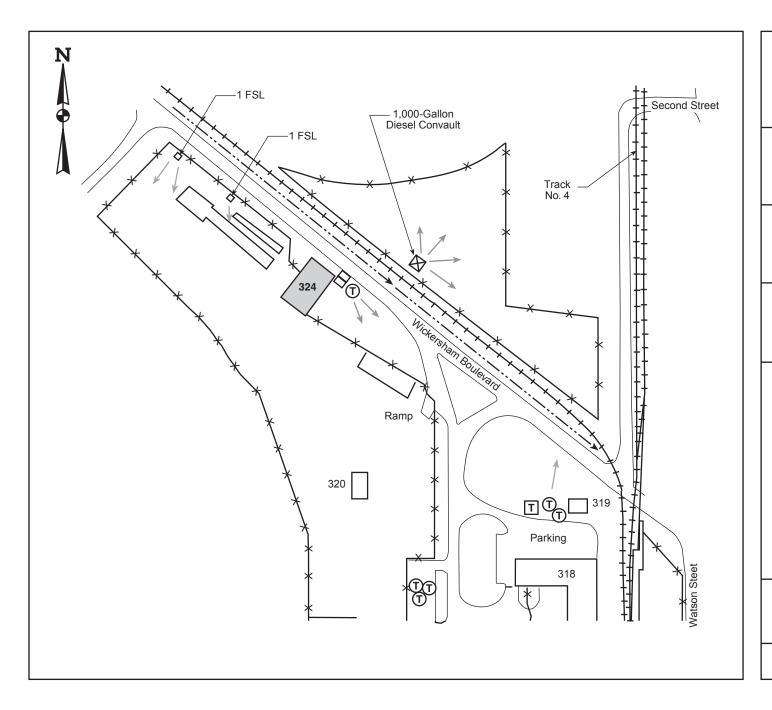
Pole-Mounted Transformer

Pad-Mounted Transformer

---- Drainage Ditch/Culvert

Direction of Flow





Building 324 DRMO Salvage and Surplus Property Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

FSL Flammable Storage Locker

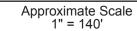
X X Fence

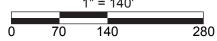
(7) Pole-Mounted Transformer

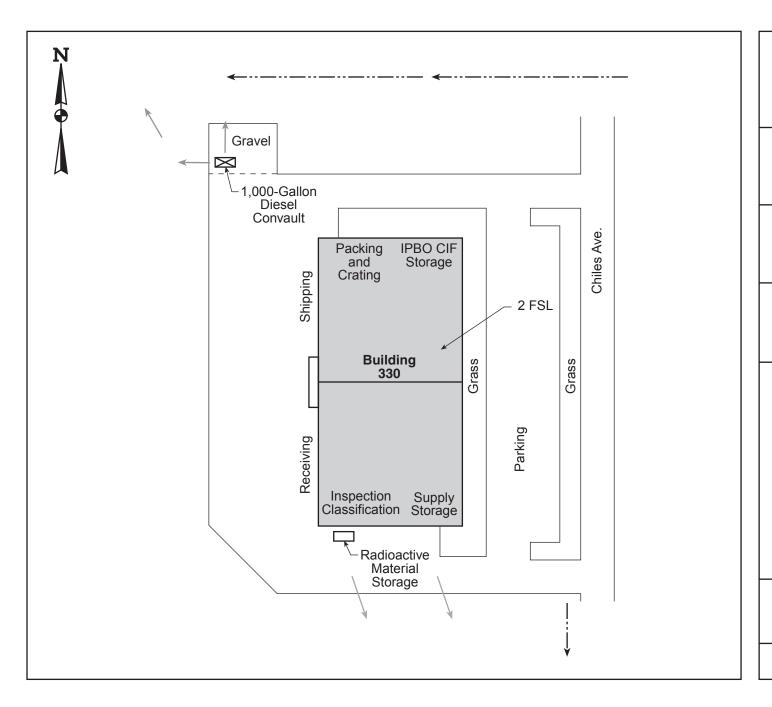
Pad-Mounted Transformer

-- Drainage Ditch/Culvert

Direction of Flow







Building 330 Central Issue Facility Fort Carson, CO

Hazardous Materials Inventory

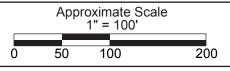
Storage Location Map

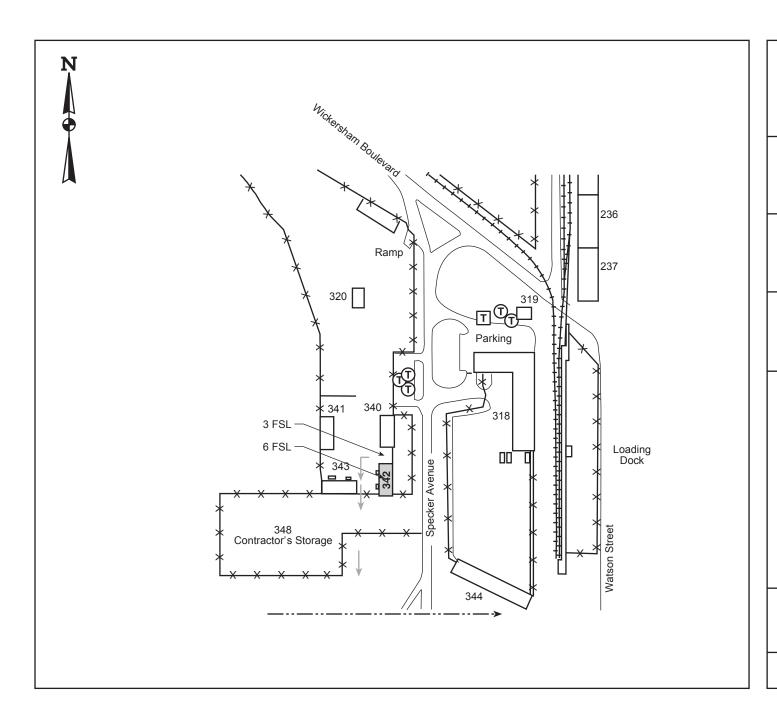


FSL Flammable Storage Locker

---- Drainage Ditch/Culvert

Direction of Flow





Building 342 DRMO 90-Day Storage Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

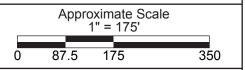
FSL Flammable Storage Locker

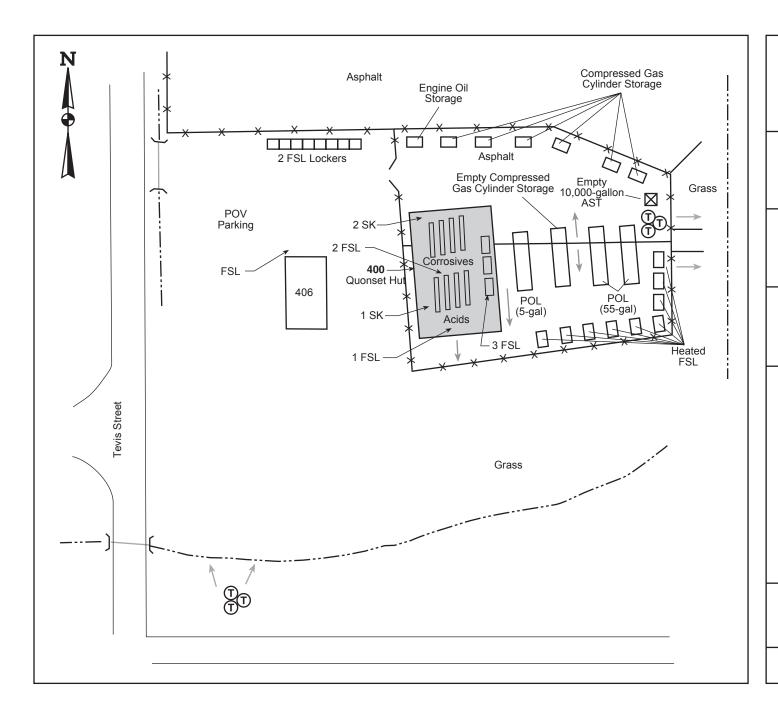
X X Fence

To Pole-Mounted Transformer

Pad-Mounted Transformer

Direction of Flow





Building 400 Hazardous Material Control Center Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

FSL Flammable Storage Locker

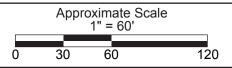
SK Spill Kit

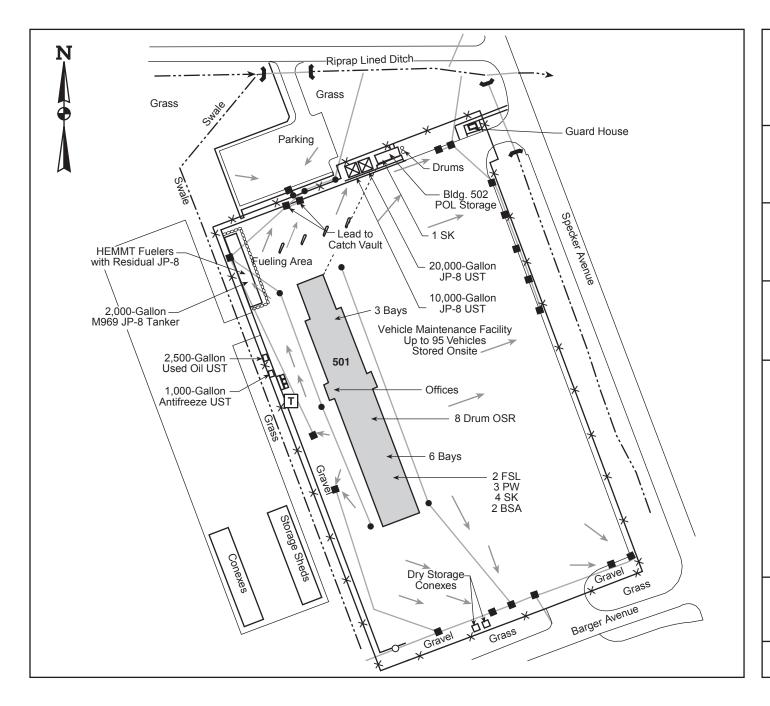
X X Fence

T) Pole-Mounted Transformer

---- Drainage Ditch/Culvert

Direction of Flow





Building 501 52nd Engineers Motor Pool Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



BSA Battery Storage Area

FSL Flammable Storage Locker

OSR Oil Storage Rack

PW Parts Washer

SK Spill Kit

X X Fence

—--- Drainage Ditch/Culvert

— Storm Sewer Line

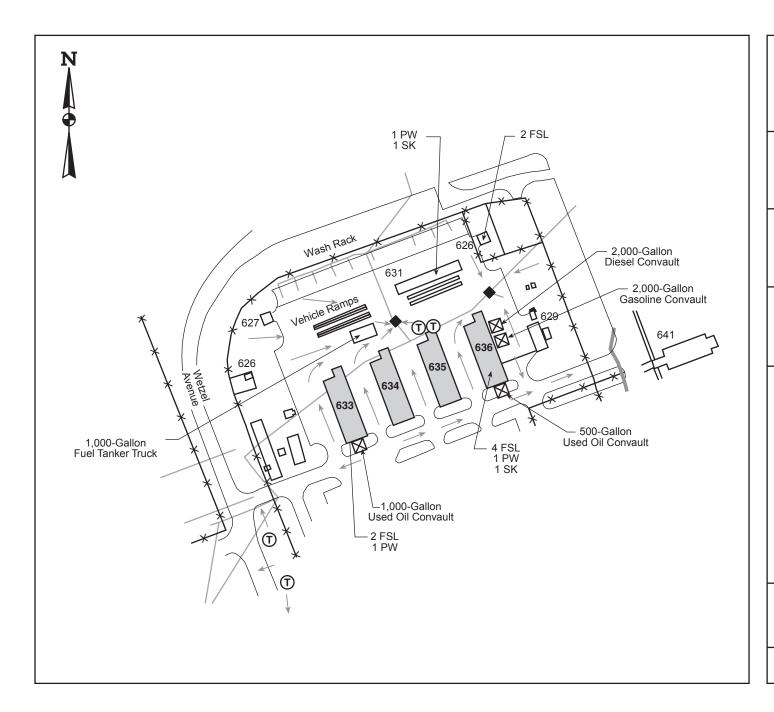
Sandbag Containment

Direction of Flow

T Pad-Mounted Transformer

Storm Drain

Approximate Scale 1" = 109' 0 54.5 109 208



Buildings 633-636 5th Armored and DECAM Vehicle Maintenance Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw[™] Shaw Environmental, Inc.

FSL Flammable Storage Locker

SK Spill Kit

PW Parts Washer

X X Fence

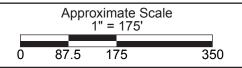
▼ Tank Location

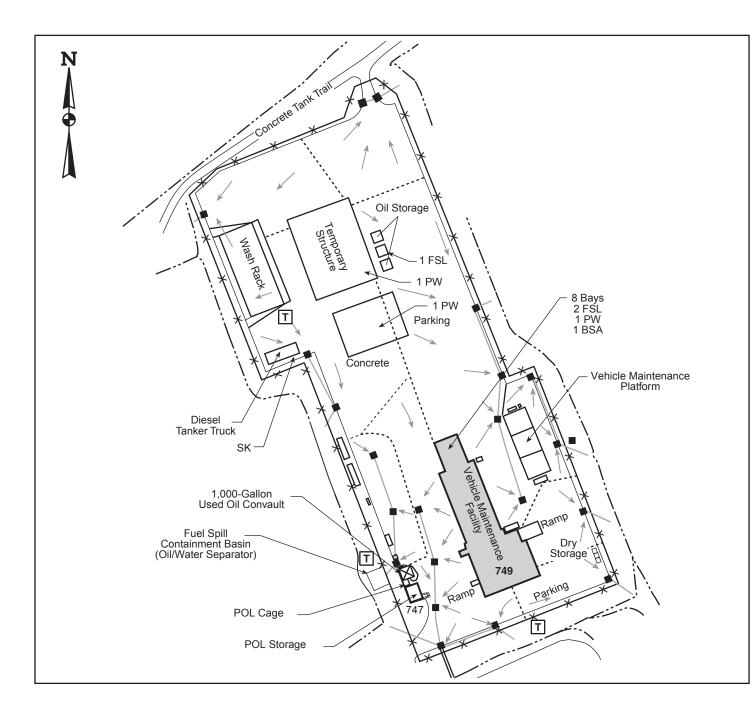
To Pole-Mounted Transformer

Direction of Flow

Storm Drain

—— Storm Sewer Line





Building 749 UNC Vehicle Reclamation Facility Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw[™] Shaw Environmental, Inc.

BSA Battery Storage Area

FSL Flammable Storage Locker

SK Spill Kit

PW Parts Washer

X X Fence

Pad-Mounted Transformer

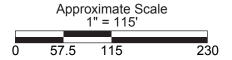
---- Drainage Ditch/Culvert

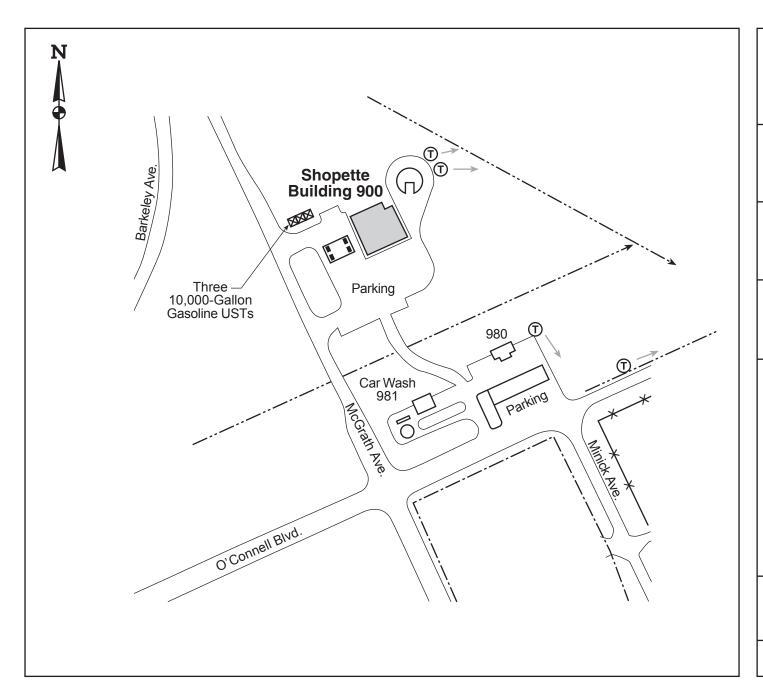
Direction of Flow

Sandbag Containment

Storm Drain

Storm Sewer Line





Building 900 Shopette Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



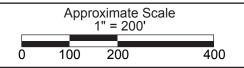
Shaw™ Shaw Environmental, Inc.

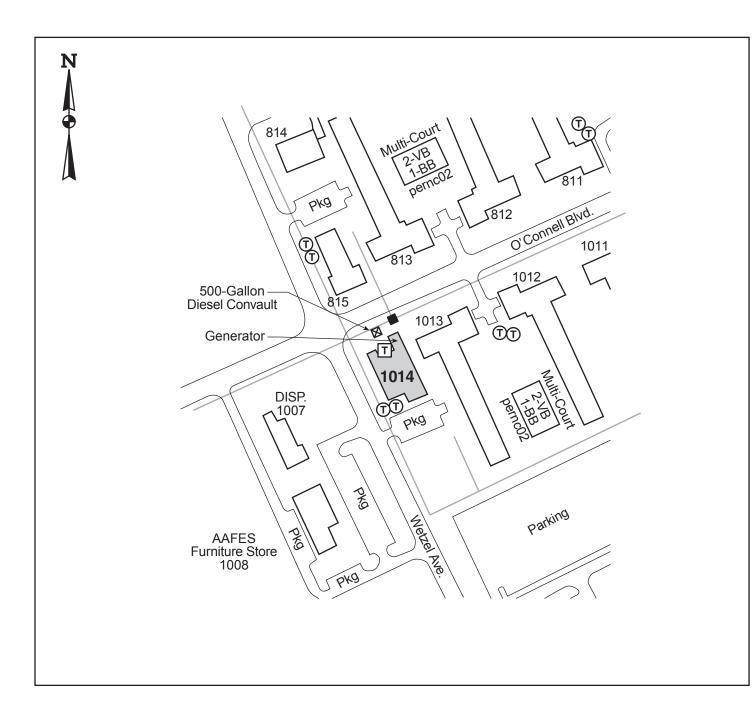
X X Fence

T Pole-Mounted Transformer

---- Drainage Ditch/Culvert

Direction of Flow





Building 1014 Commo Center Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



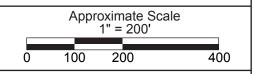
Shaw™ Shaw Environmental, Inc.

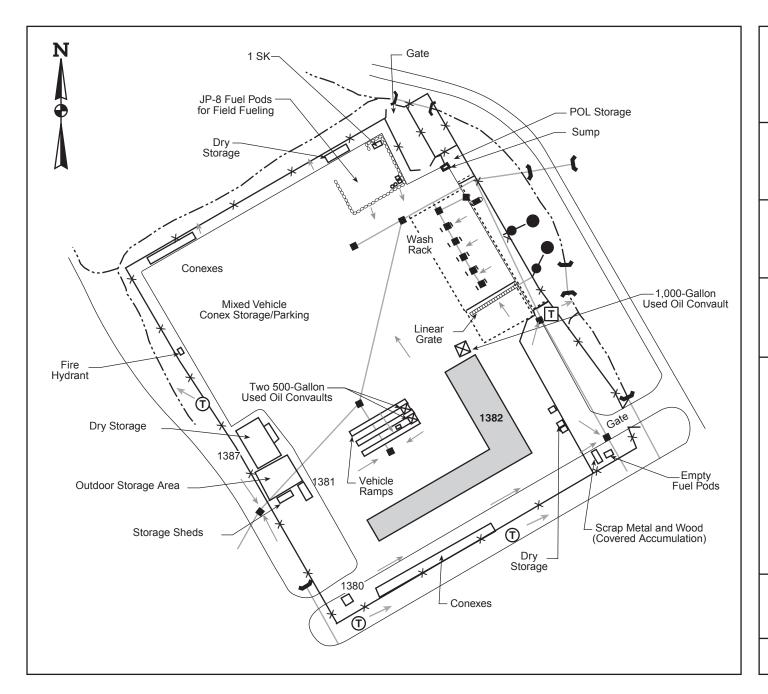
T Pole-Mounted Transformer

T Pad-Mounted Transformer

Storm Drain

Storm Sewer Line





Building 1382 43rd ASG Vehicle Maintenance Shop Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

FSL Flammable Storage Locker

SK Spill Kit

X X Fence

Pole-Mounted Transformer

Pad-Mounted Transformer

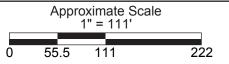
Storm Drain

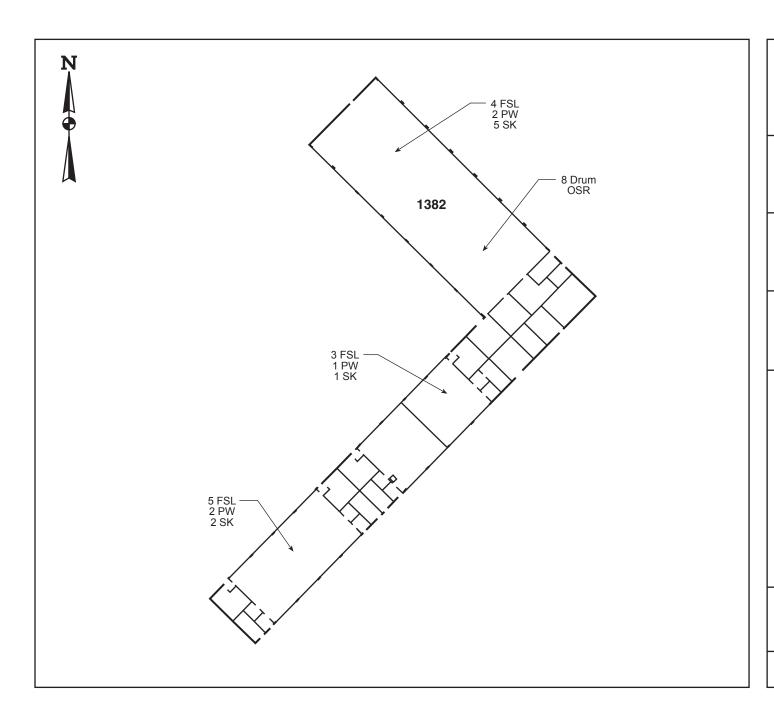
---- Drainage Ditch/Culvert

Storm Sewer Line

Direction of Flow

Sandbag Containment





Building 1382 43rd ASG Vehicle Maintenance Shop Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map

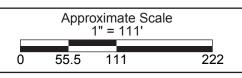


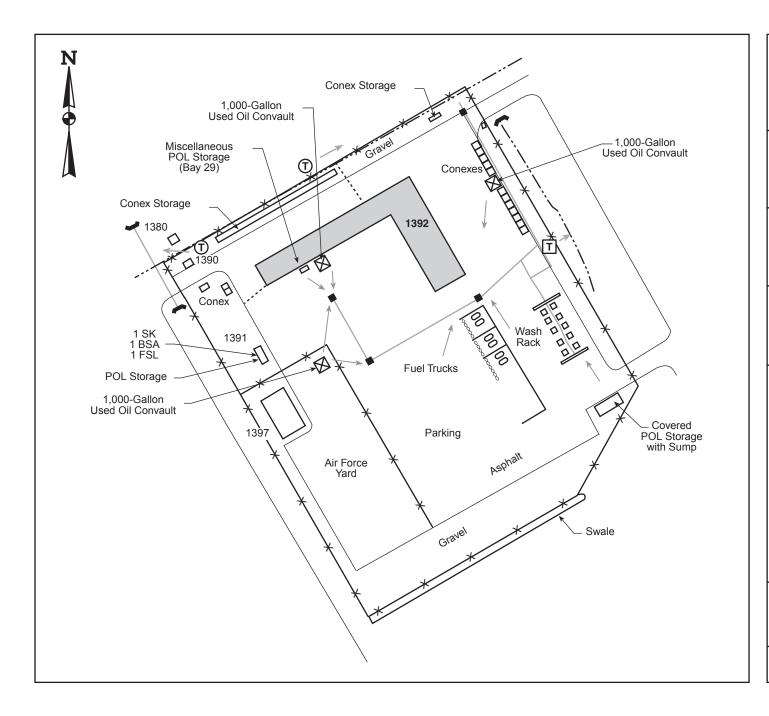
OSR Oil Storage Rack

PW Parts Washer

FSL Flammable Storage Locker

SK Spill Kit





Building 1392 43rd ASG Motor Pool Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

BSA Battery Storage Area

FSL Flammable Storage Locker

SK Spill Kit

X X Fence

Pole-Mounted Transformer

T Pad-Mounted Transformer

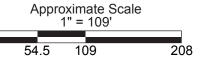
Storm Drain

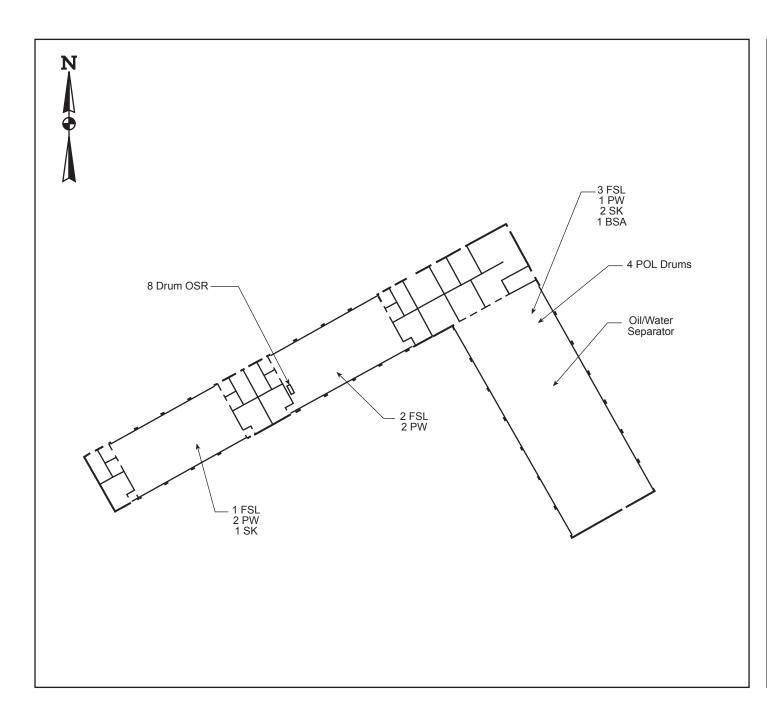
— --- Drainage Ditch/Culvert

— Storm Sewer Line

Direction of Flow

Sandbag Containment





Building 1392 43rd ASG Motor Pool Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



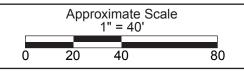
BSA Battery Storage Area

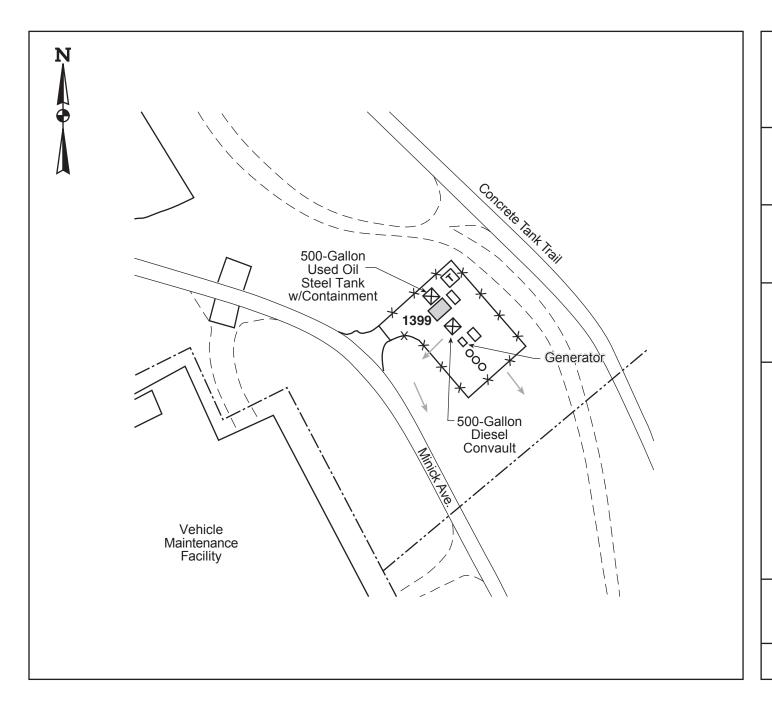
OSR Oil Storage Rack

PW Parts Washer

FSL Flammable Storage Locker

SK Spill Kit





Building 1399 Pump Station Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



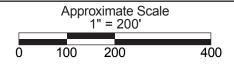
X X Fence

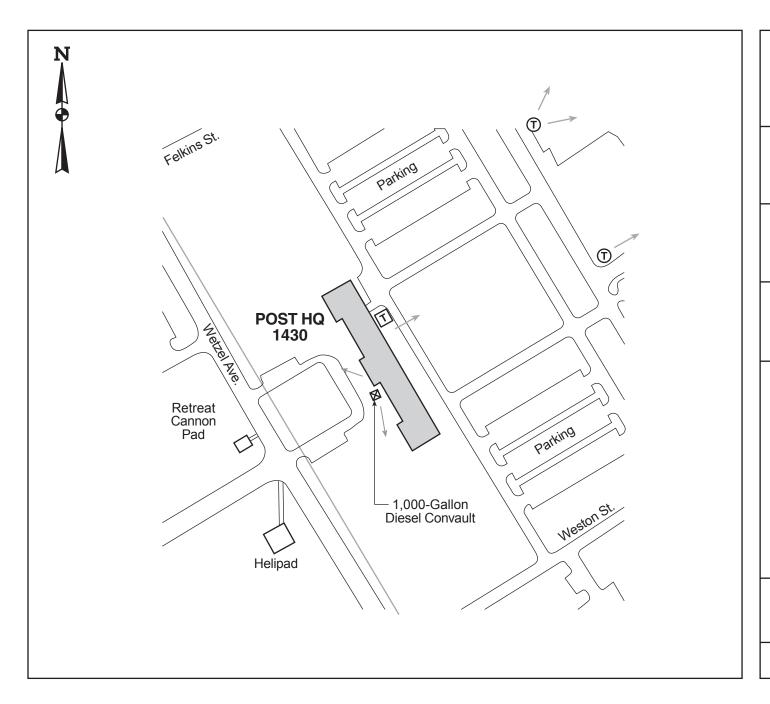
Tank Location

Pad-Mounted Transformer

---- Drainage Ditch/Culvert

Direction of Flow





Building 1430 Post Headquarters Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



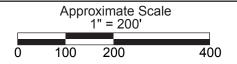
Shaw™ Shaw Environmental, Inc.

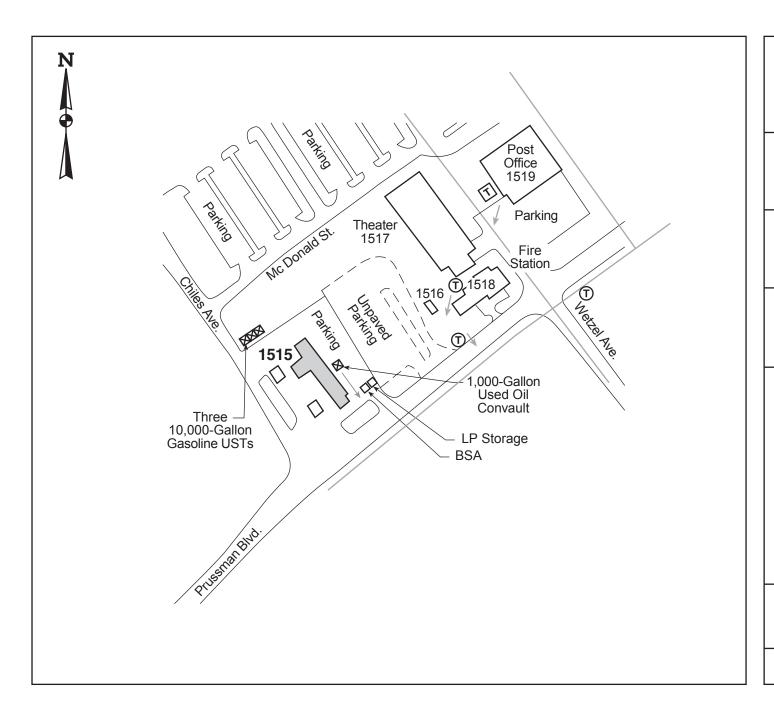
Pole-Mounted Transformer

Pad-Mounted Transformer

Storm Sewer Line

Direction of Flow





Building 1515 PX Gas Station Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



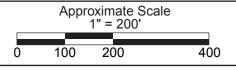
BSA Battery Storage Area

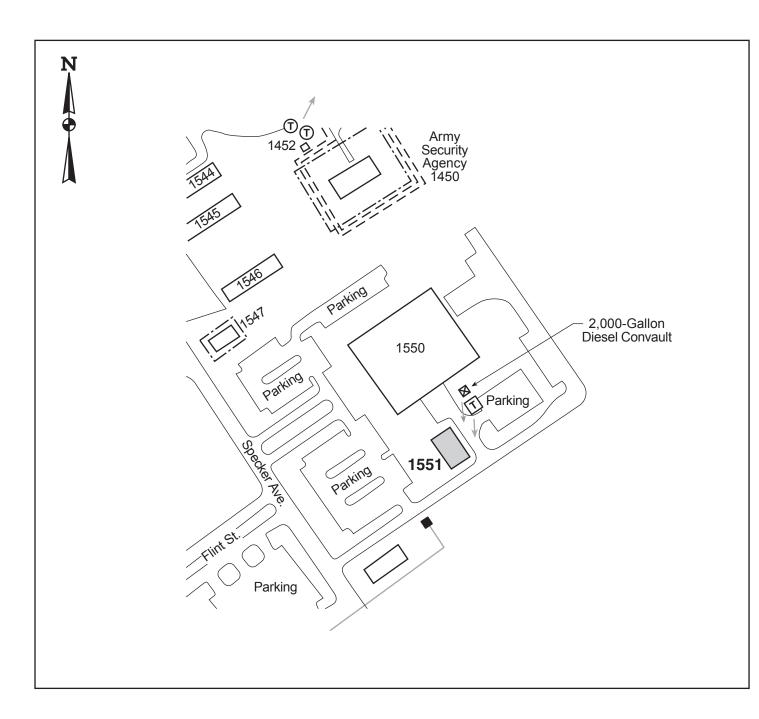
Pole-Mounted Transformer

Pad-Mounted Transformer

Storm Sewer Line

Direction of Flow





Building 1551 Information Systems Facility Fort Carson, CO

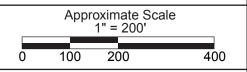
Hazardous Materials Inventory

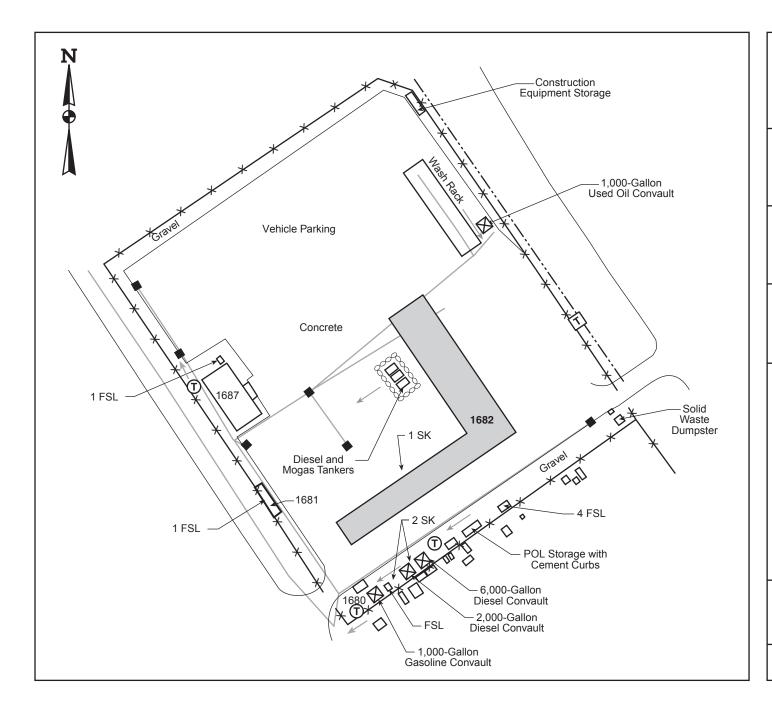
Storage Location Map



oriav Erwitorittai, iri

- T Pole-Mounted Transformer
- T Pad-Mounted Transformer
- Storm Drain
- ---- Drainage Ditch/Culvert
- —— Storm Sewer Line
- Direction of Flow





Building 1682
Base Operations Contractor
Maintenance Facility
Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

FSL Flammable Storage Locker

SK Spill Kit

X X Fence

D Pole-Mounted Transformer

T Pad-Mounted Transformer

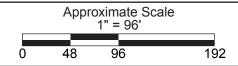
Storm Drain

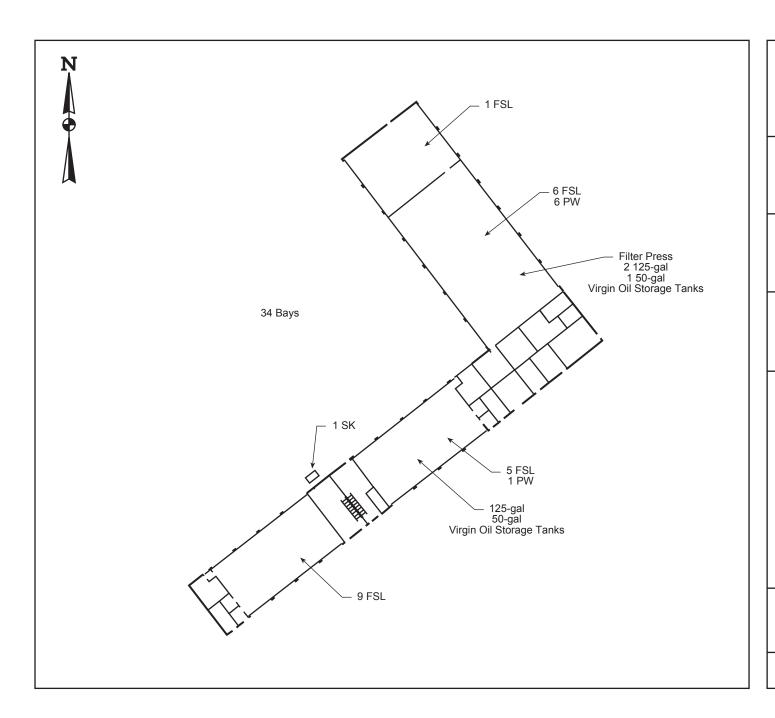
— --- Drainage Ditch/Culvert

— Storm Sewer Line

Direction of Flow

Sandbag Containment





Building 1682
Base Operations Contractor
Maintenance Facility
Fort Carson, CO

Hazardous Materials Inventory

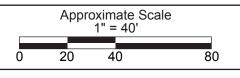
Storage Location Map

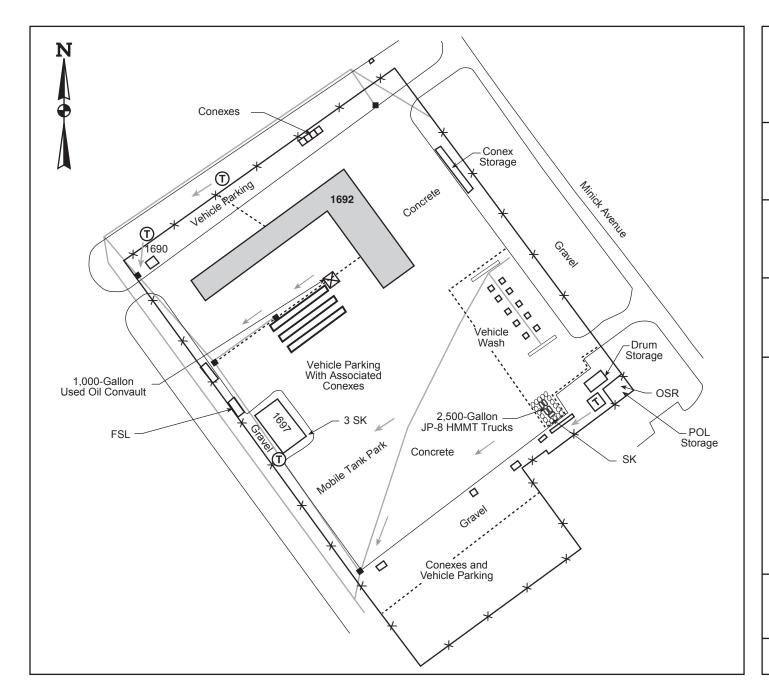


PW Parts Washer

FSL Flammable Storage Locker

SK Spill Kit





Building 1692 4th Engineers Motor Pool Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

OSR Oil Storage Rack

FSL Flammable Storage Locker

SK Spill Kit

X X Fence

T) Pole-Mounted Transformer

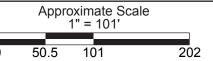
Pad-Mounted Transformer

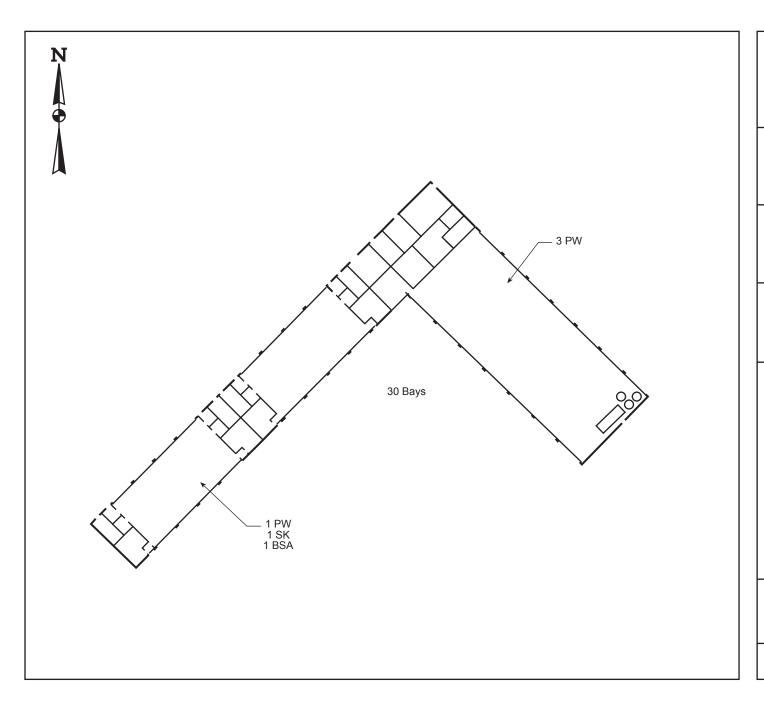
Storm Drain

— Storm Sewer Line

Direction of Flow

Sandbag Containment





Building 1692 4th Engineers Motor Pool Fort Carson, CO

Hazardous Materials Inventory

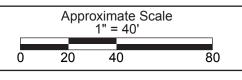
Storage Location Map

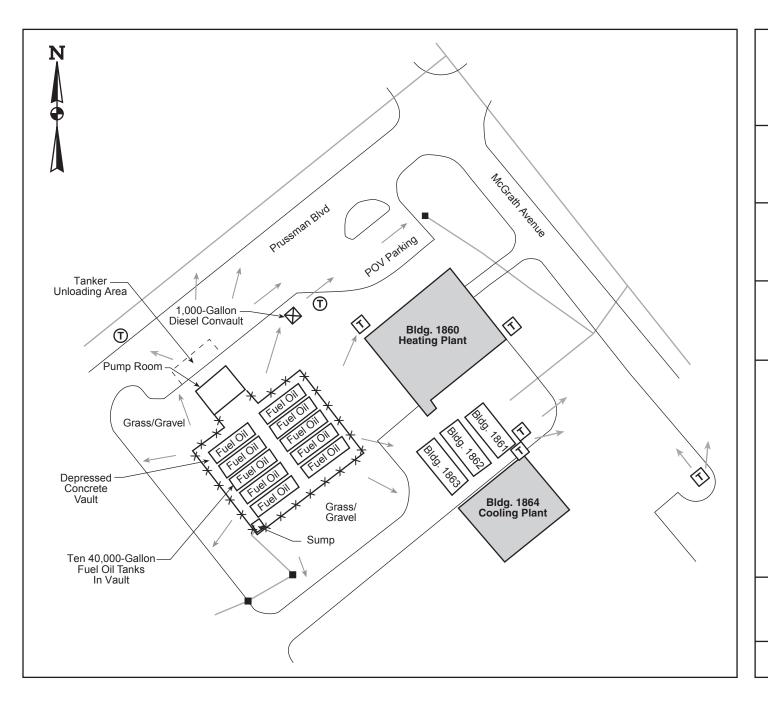


BSA Battery Storage Area

PW Parts Washer

SK Spill Kit





Buildings 1860 and 1864 Heating/Cooling Plant Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

X X Fence

T) Pole-Mounted Transformer

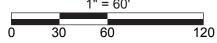
T Pad-Mounted Transformer

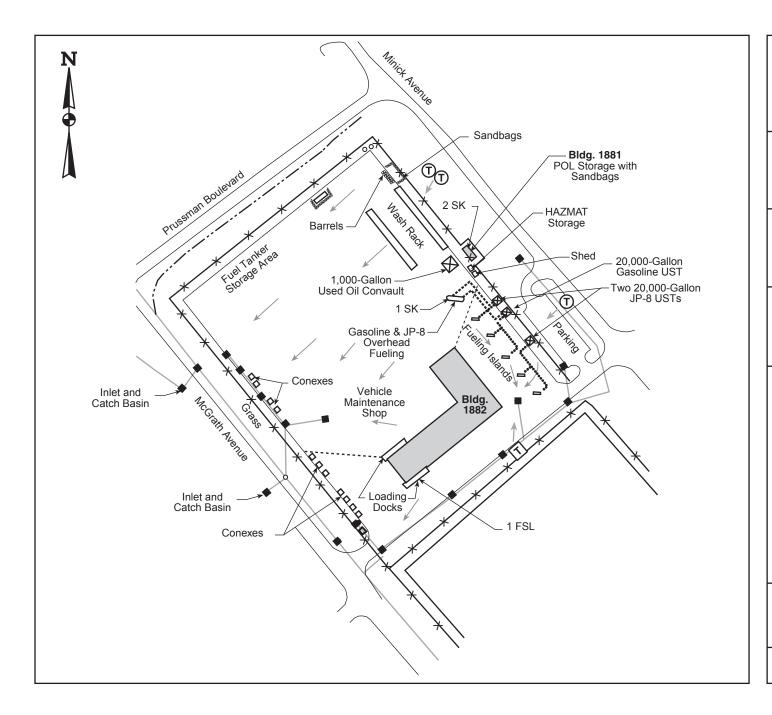
Storm Drain

— Storm Sewer Line

Direction of Flow

Approximate Scale 1" = 60'





Buildings 1881 and 1882 3/29 ARTY Motor Pool Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw Liviloninental, inc.

FSL Flammable Storage Locker

SK Spill Kit

X X Fence

D Pole-Mounted Transformer

Pad-Mounted Transformer

Storm Drain

--- Drainage Ditch/Culvert

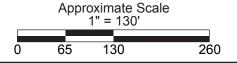
— Storm Sewer Line

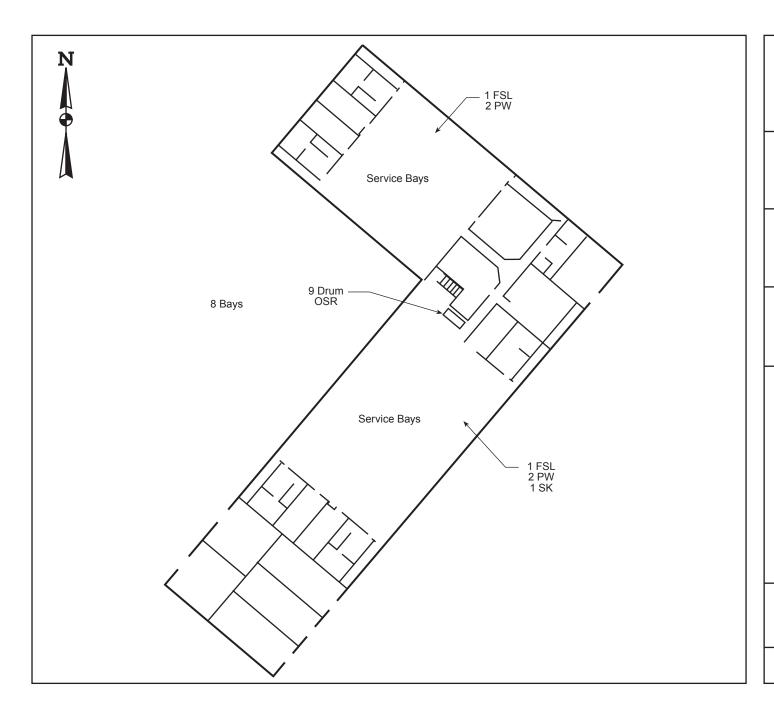
Direction of Flow

Sandbag Containment

·········· Underground Piping

Overhead Piping





Building 1882 3/29 ARTY Motor Pool Fort Carson, CO

Hazardous Materials Inventory

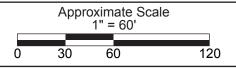
Storage Location Map

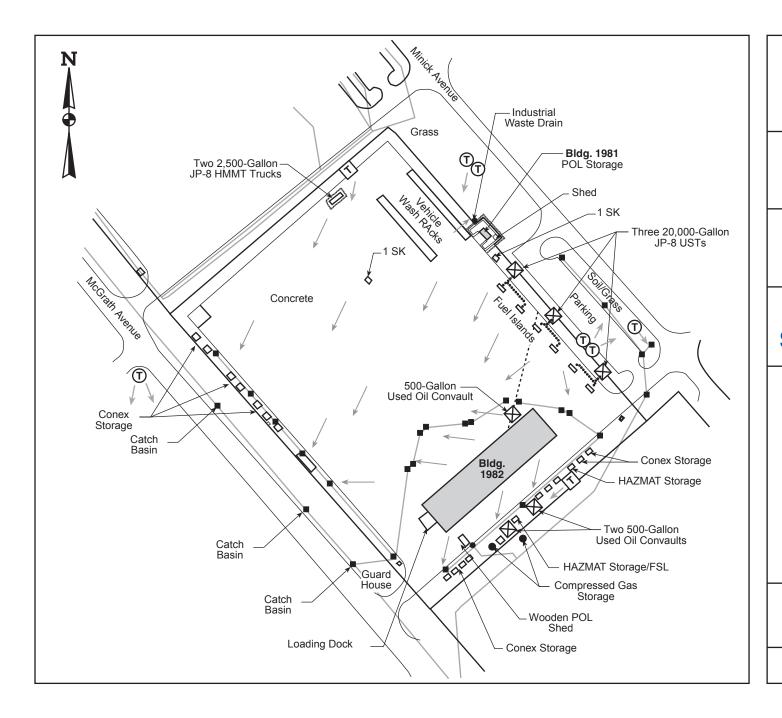


OSR Oil Storage Rack
PW Parts Washer

FSL Flammable Storage Locker

SK Spill Kit





Buildings 1981 and 1982 3rd BCT-ADA CO Motor Pool Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



FSL Flammable Storage Locker

SK Spill Kit

Tank Location

Pole-Mounted Transformer

Pad-Mounted Transformer

Storm Drain

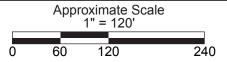
Drainage Ditch/Culvert

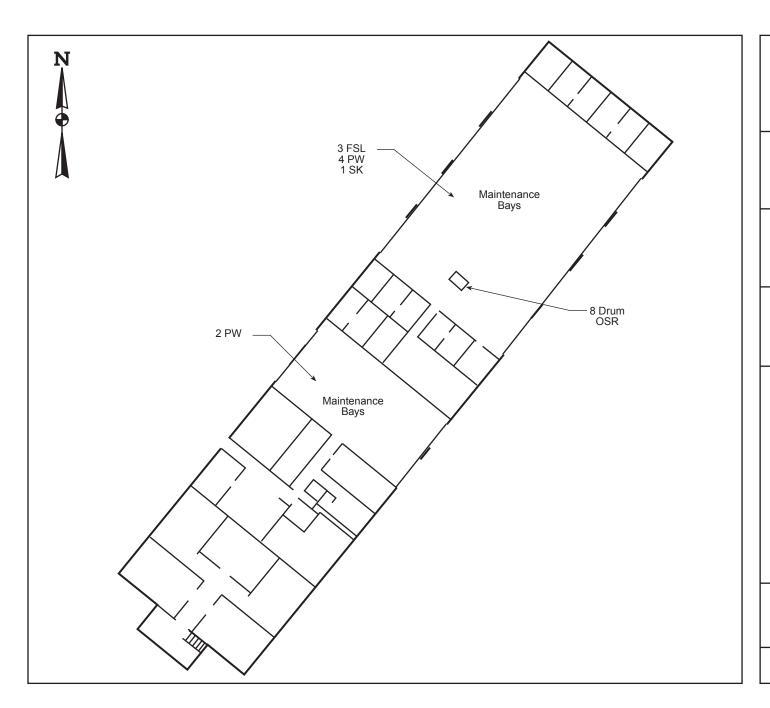
Storm Sewer Line

Direction of Flow

Sandbag Containment

Underground Piping





Building 1982 3rd BCT-ADA CO Motor Pool Fort Carson, CO

Hazardous Materials Inventory

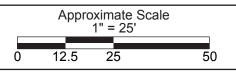
Storage Location Map

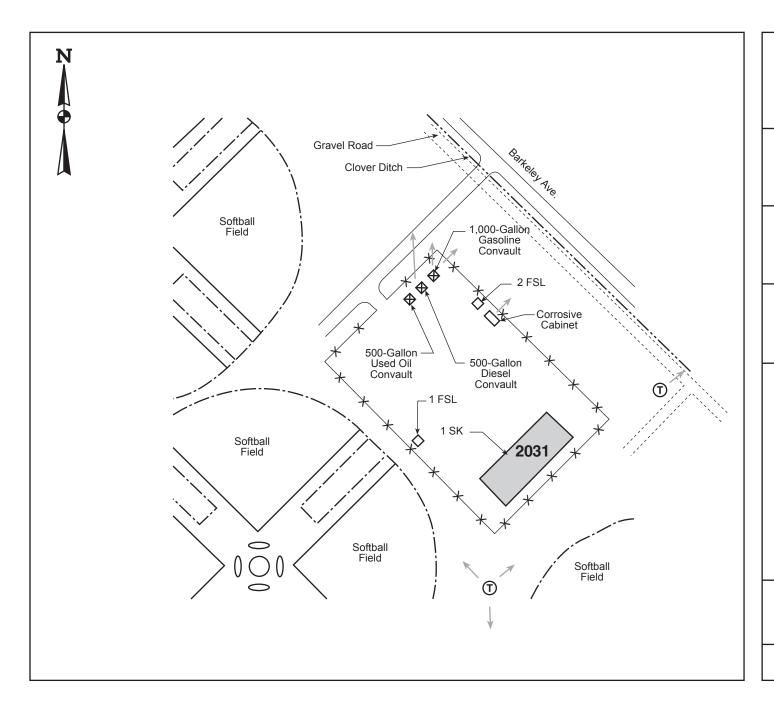


OSR Oil Storage Rack PW Parts Washer

FSL Flammable Storage Locker

SK Spill Kit





Building 2031 General Purpose Maintenance Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw[™] Shaw Environmental, Inc.

FSL Flammable Storage Locker

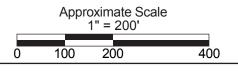
SK Spill Kit

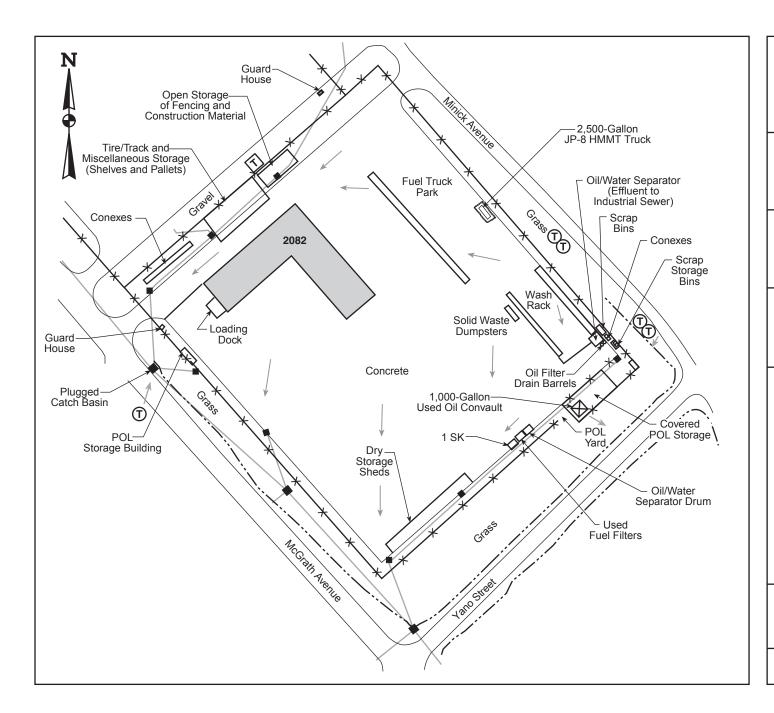
X X Fence

T Pole-Mounted Transformer

—--- Drainage Ditch/Culvert

Direction of Flow





Building 2082 1/68 Armor Battalion Motor Pool Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

FSL Flammable Storage Locker

SK Spill Kit

X X Fence

T Pole-Mounted Transformer

T Pad-Mounted Transformer

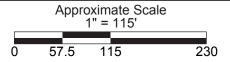
Storm Drain

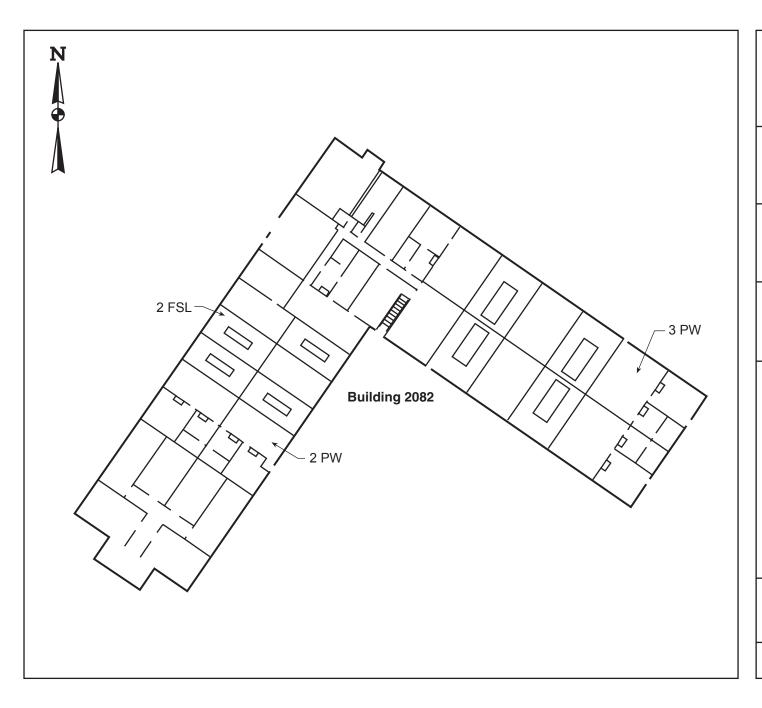
---- Drainage Ditch/Culvert

— Storm Sewer Line

Direction of Flow

Sandbag Containment





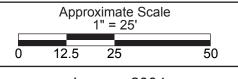
Building 2082 1/68 Armor Battalion Motor Pool Fort Carson, CO

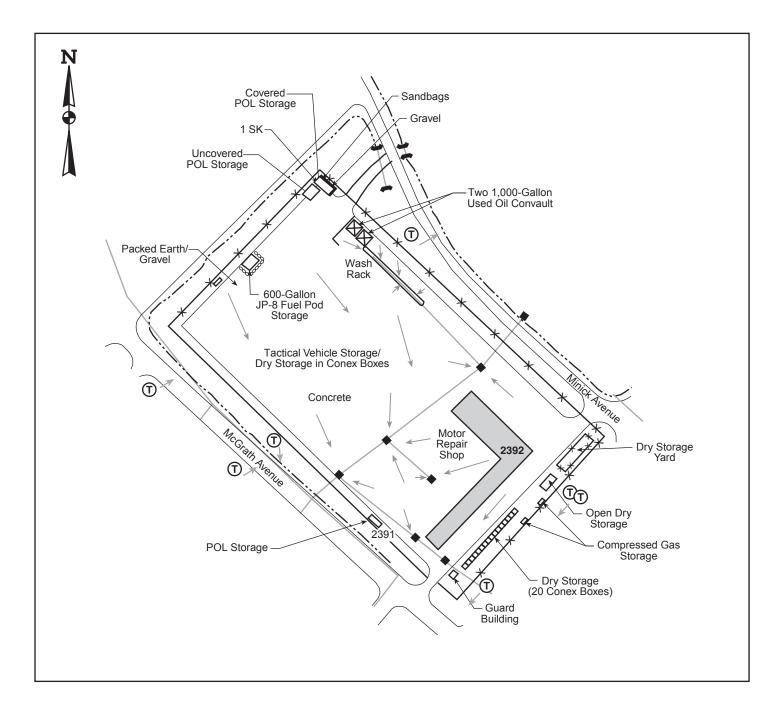
Hazardous Materials Inventory

Storage Location Map



PW Parts Washer FSL Flammable Storage Locker





Building 2392 1/8 Infantry Battalion Motor Pool Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

SK Spill Kit

X X Fence

T Pole-Mounted Transformer

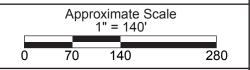
Storm Drain

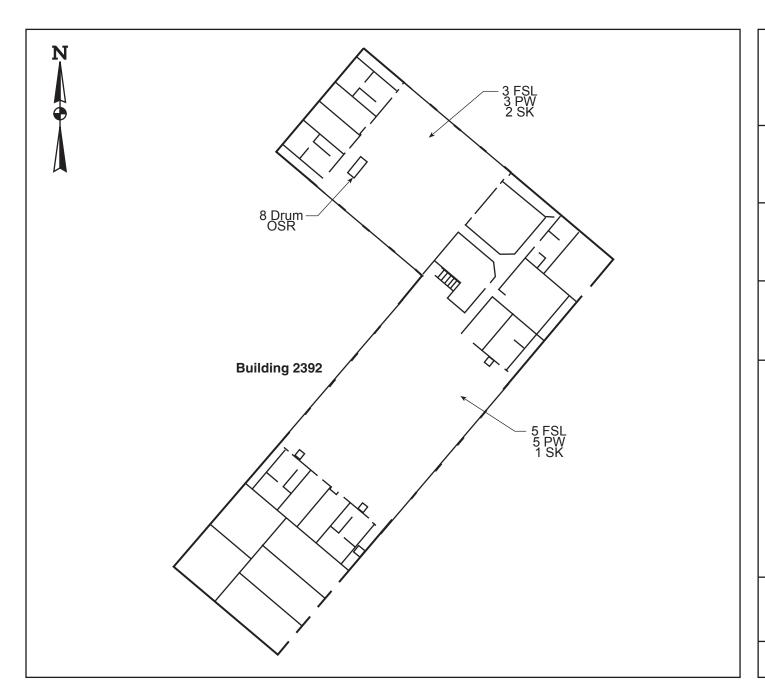
--- Drainage Ditch/Culvert

— Storm Sewer Line

Direction of Flow

Sandbag Containment





Building 2392 1/8 Infantry Battalion Motor Pool Fort Carson, CO

Hazardous Materials Inventory

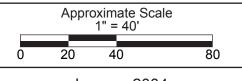
Storage Location Map

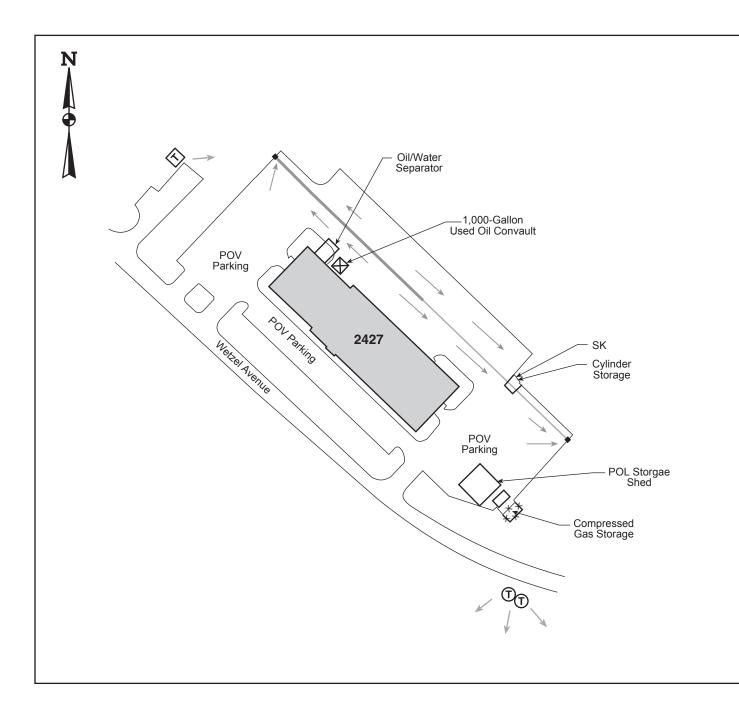


OSR Oil Storage Rack PW Parts Washer

FSL Flammable Storage Locker

SK Spill Kit





Building 2427 Auto Craft Shop Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



SK Spill Kit

X X Fence

Tank Location

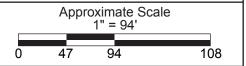
Pole-Mounted Transformer

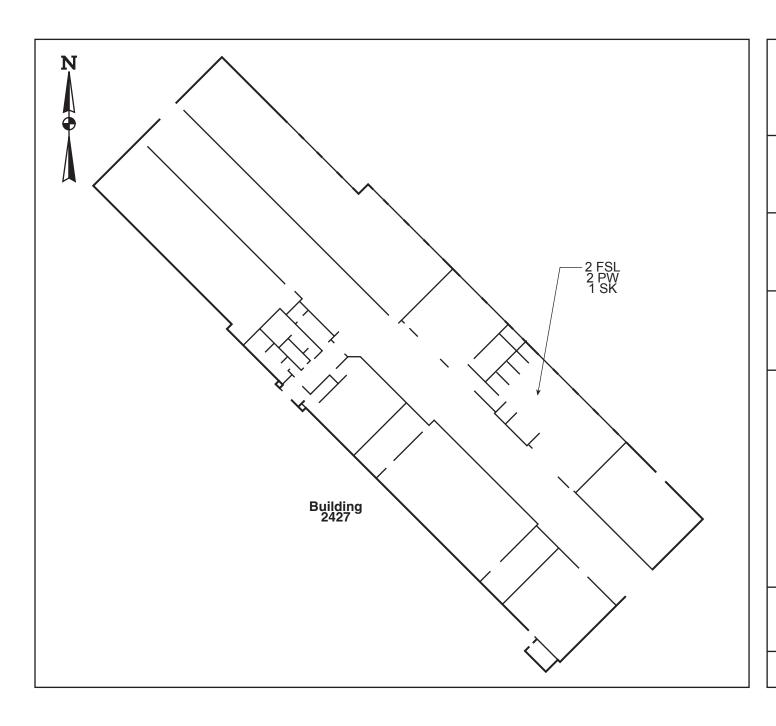
Pad-Mounted Transformer

Storm Drain

Storm Sewer Line

Direction of Flow





Building 2427 Auto Craft Shop Fort Carson, CO

Hazardous Materials Inventory

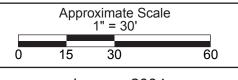
Storage Location Map

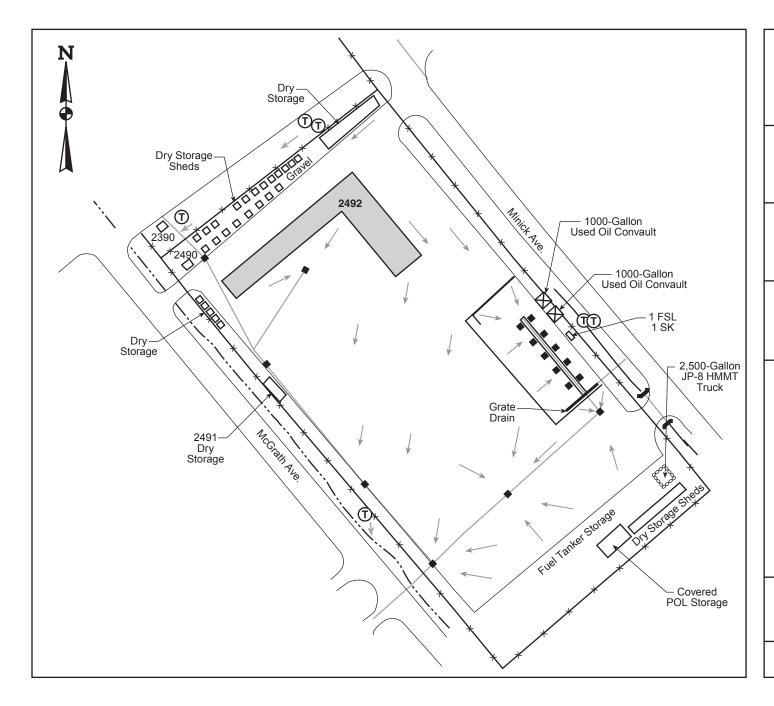


PW Parts Washer

FSL Flammable Storage Locker

SK Spill Kit





Building 2492 1/12 Infantry Task Force Motor Pool Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



FSL Flammable Storage Locker

SK Spill Kit

X X Fence

Tank Location

Pole-Mounted Transformer

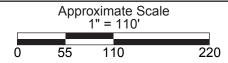
Storm Drain

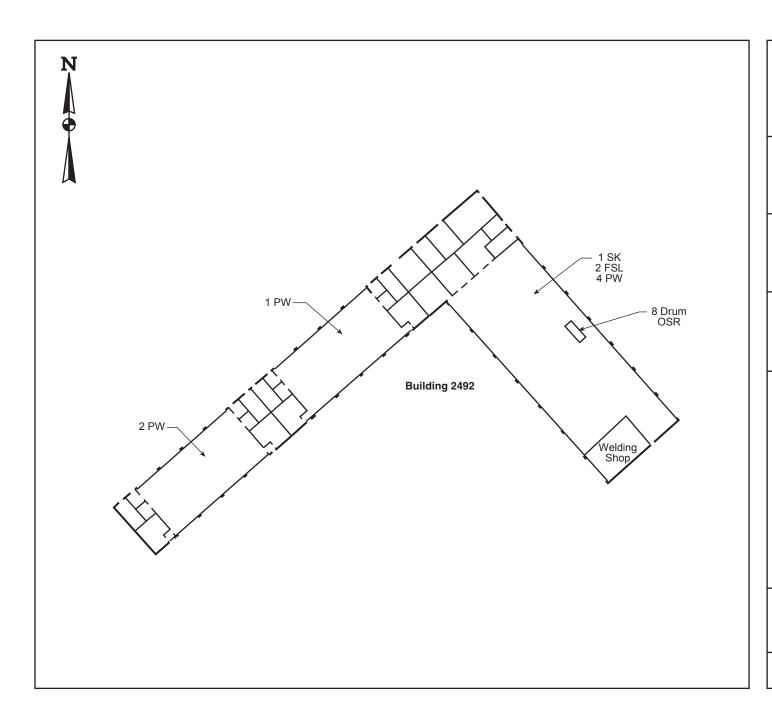
--- Drainage Ditch/Culvert

Storm Sewer Line

Direction of Flow

Sandbag Containment





Building 2492 1/12 Infantry Task Force Motor Pool Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map

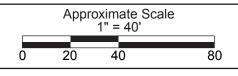


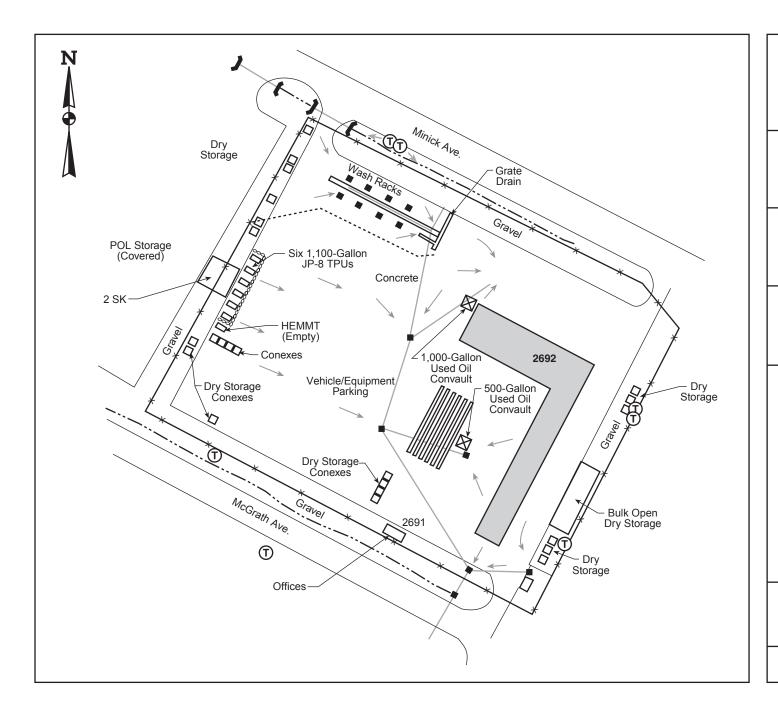
Oriaw Environmental, in

OSR Oil Storage Rack PW Parts Washer

FSL Flammable Storage Locker

SK Spill Kit





Building 2692 RHHT/3rd ACR Motor Pool Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

SK Spill Kit

X X Fence

Pole-Mounted Transformer

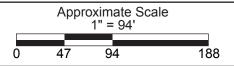
Storm Drain

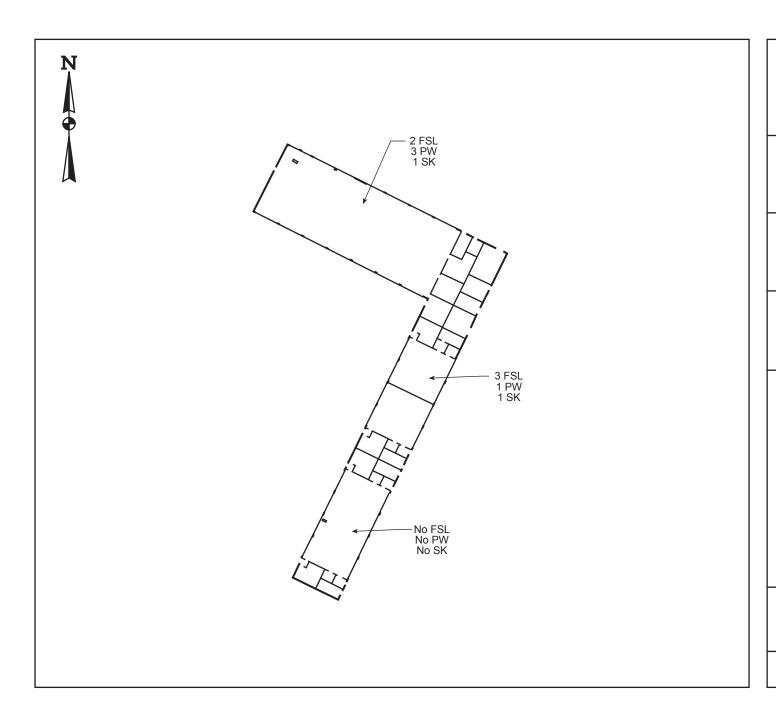
--- Drainage Ditch/Culvert

Storm Sewer Line

Direction of Flow

Sandbag Containment





Building 2692 RHHT/3rd ACR Motor Pool Fort Carson, CO

Hazardous Materials Inventory

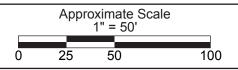
Storage Location Map

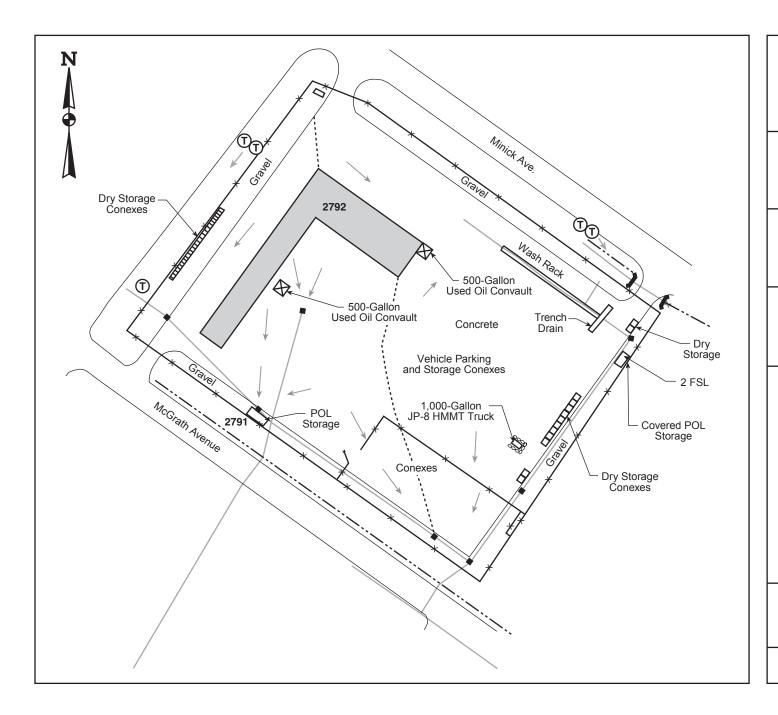


PW Parts Washer

FSL Flammable Storage Locker

SK Spill Kit





Building 2792 RHHT/3 ACR Motor Pool Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



FSL Flammable Storage Locker

X X Fence

X **Tank Location**

Pole-Mounted Transformer

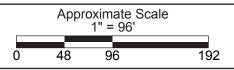
Storm Drain

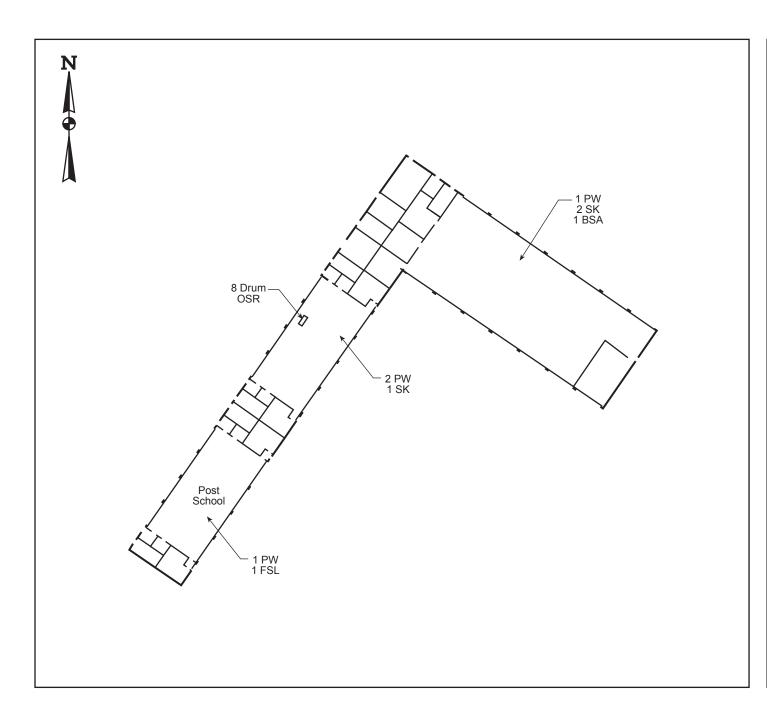
Drainage Ditch/Culvert

Storm Sewer Line

Direction of Flow

Sandbag Containment





Building 2792 RHHT/3rd ACR Vehicle Maintenance Shop Fort Carson, CO

Hazardous Materials Inventory

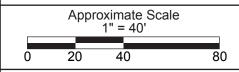
Storage Location Map

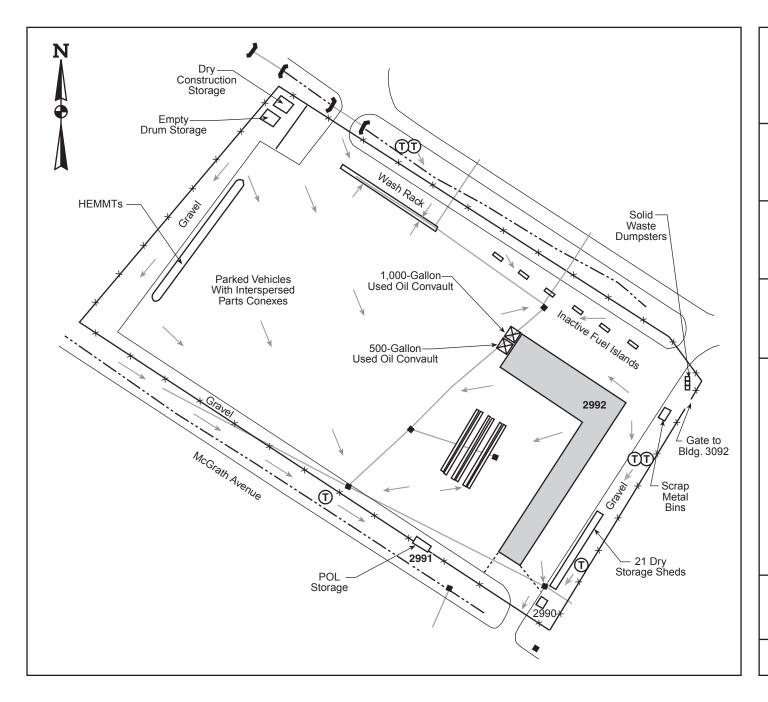


BSA Battery Storage Area OSR Oil Storage Rack PW Parts Washer

FSL Flammable Storage Locker

SK Spill Kit





Building 2992 1/3 ACR Vehicle Maintenance Shop Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

X X Fence

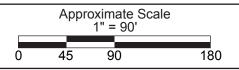
(T) Pole-Mounted Transformer

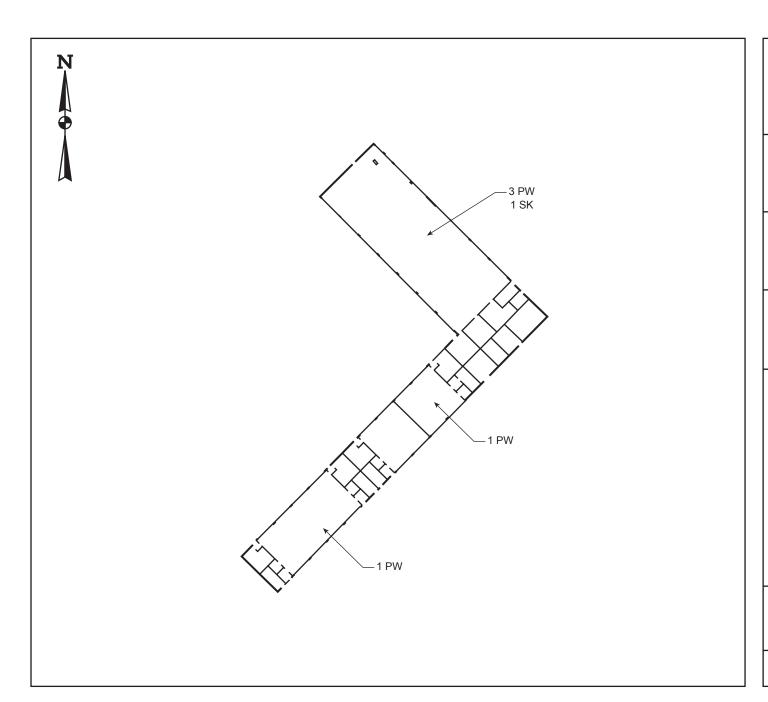
Storm Drain

--- Drainage Ditch/Culvert

—— Storm Sewer Line

Direction of Flow





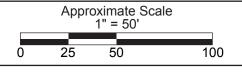
Building 2992 1/3 ACR Vehicle Maintenance Shop Fort Carson, CO

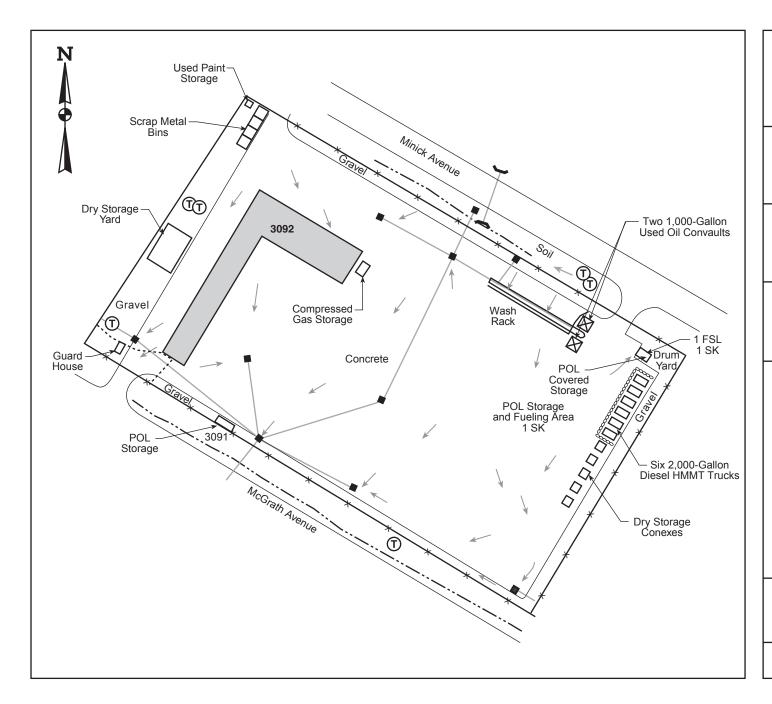
Hazardous Materials Inventory

Storage Location Map



PW Parts Washer SK Spill Kit





Building 3092 1/3 ACR Motor Pool Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

FSL Flammable Storage Locker

SK Spill Kit

X X Fence

T Pole-Mounted Transformer

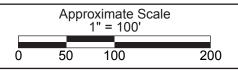
Storm Drain

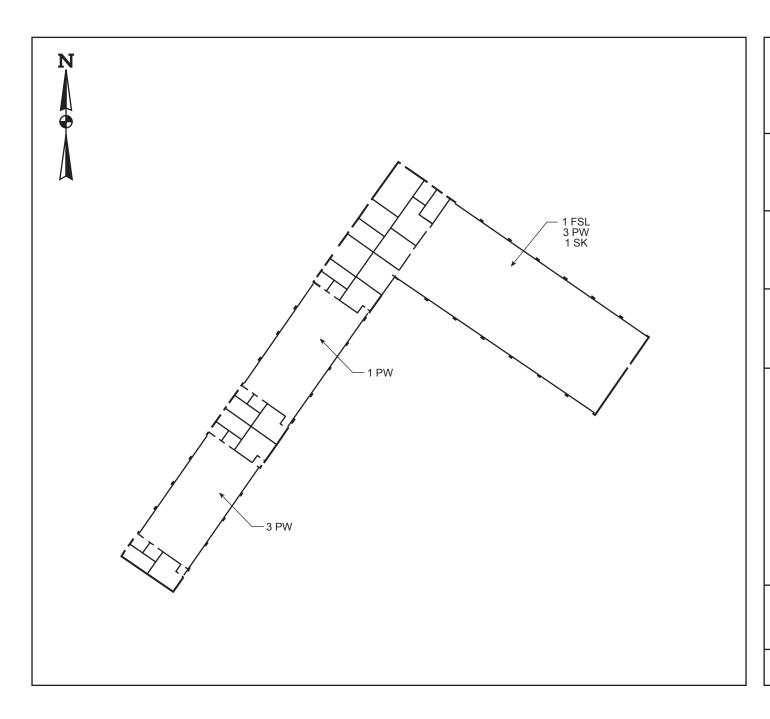
--- Drainage Ditch/Culvert

— Storm Sewer Line

Direction of Flow

Sandbag Containment





Building 3092 1/3 ACR Motor Pool Fort Carson, CO

Hazardous Materials Inventory

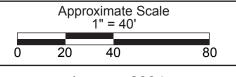
Storage Location Map

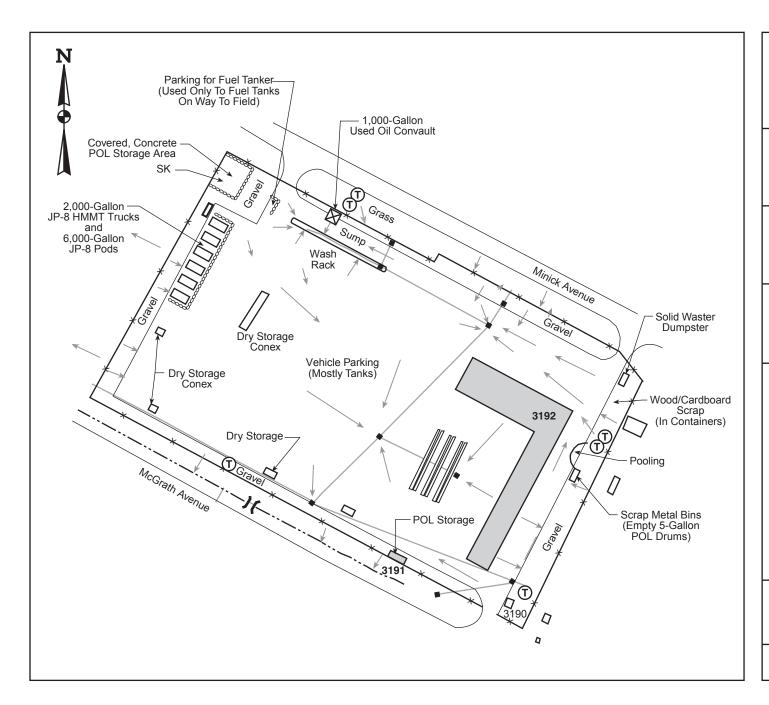


PW Parts Washer

FSL Flammable Storage Locker

SK Spill Kit





Building 3191 and 3192 2/3rd ACR Motor Pool Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

SK Spill Kit

X X Fence

Pole-Mounted Transformer

Storm Drain

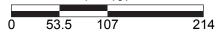
--- Drainage Ditch/Culvert

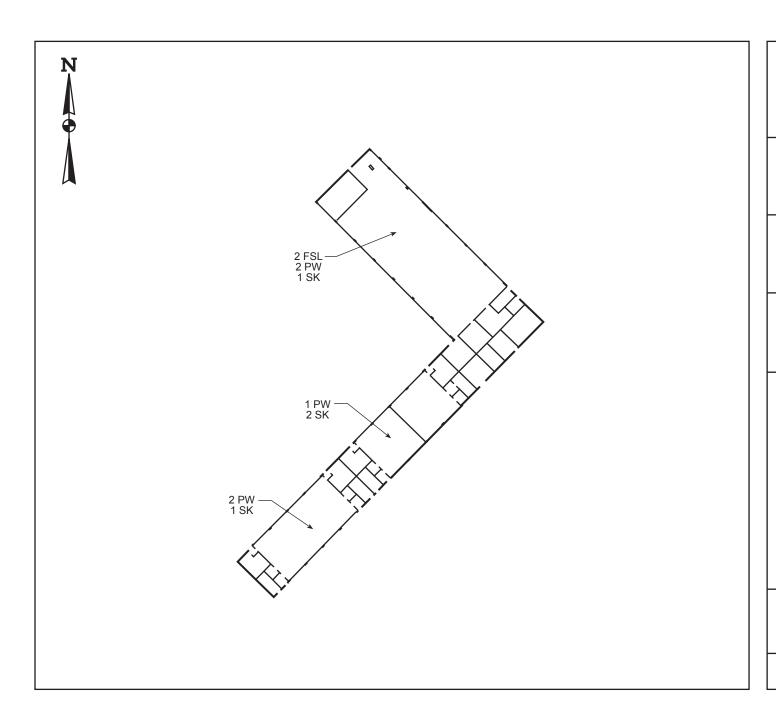
— Storm Sewer Line

Direction of Flow

Sandbag Containment

Approximate Scale 1" = 107'





Building 3192 2/3rd ACR Motor Pool Fort Carson, CO

Hazardous Materials Inventory

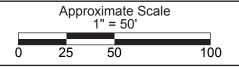
Storage Location Map

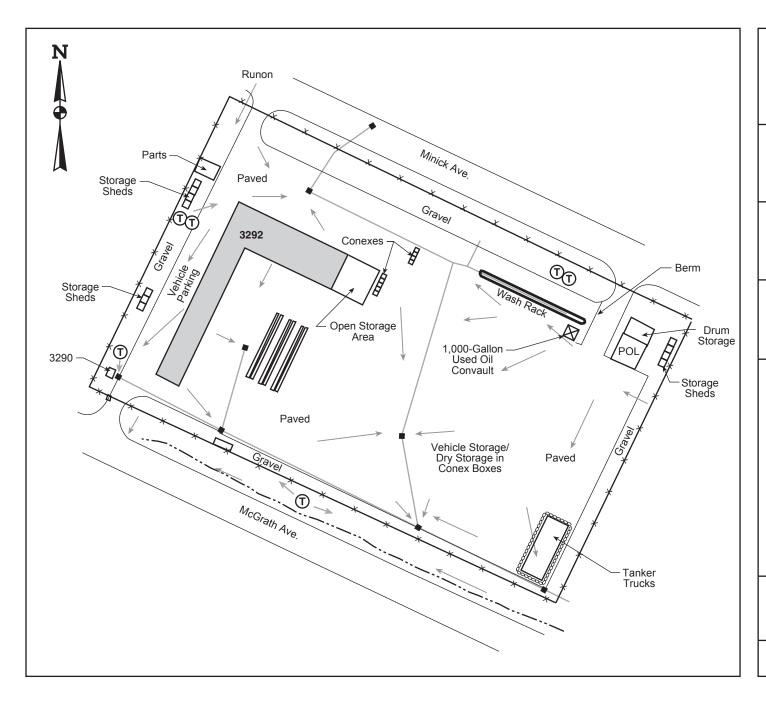


PW Parts Washer

FSL Flammable Storage Locker

SK Spill Kit





Building 3292 2/3rd ACR Motor Pool Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw[™] Shaw Environmental, Inc.

SK Spill Kit

X X Fence

▼ Tank Location

Pole-Mounted Transformer

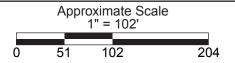
Storm Drain

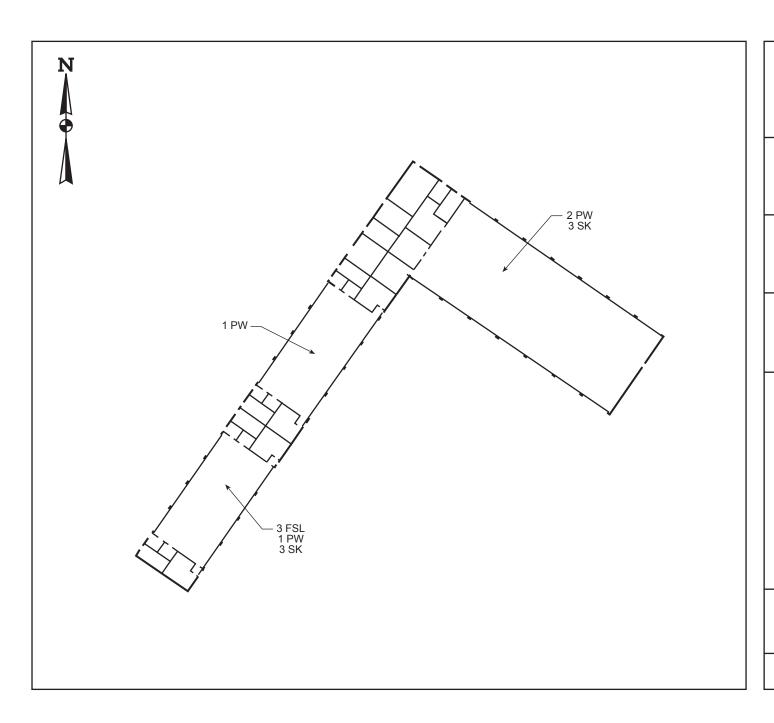
---- Drainage Ditch/Culvert

— Storm Sewer Line

Direction of Flow

Sandbag Containment





Building 3292 2/3rd ACR Motor Pool Fort Carson, CO

Hazardous Materials Inventory

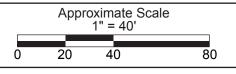
Storage Location Map

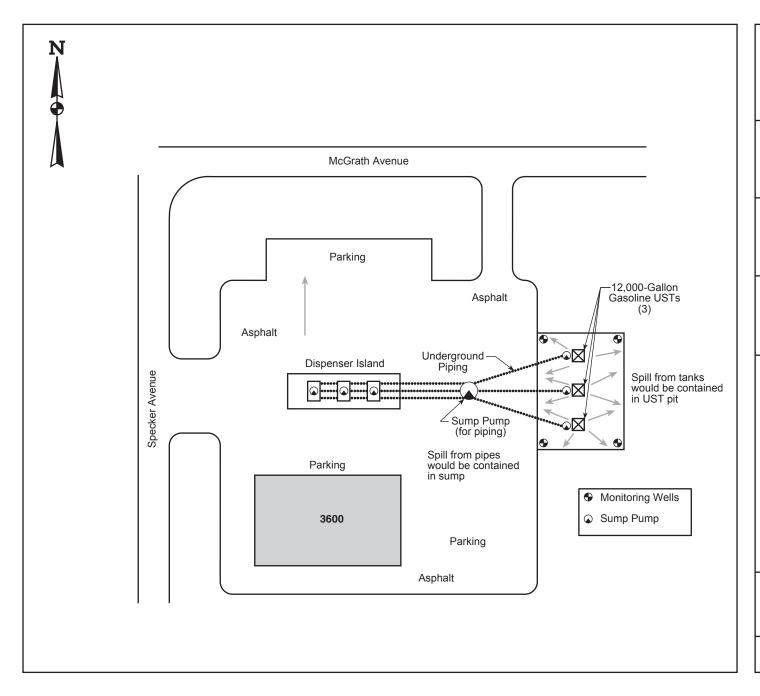


PW Parts Washer

FSL Flammable Storage Locker

SK Spill Kit





Building 3600 AAFES Fuel Station Fort Carson, CO

Hazardous Materials Inventory

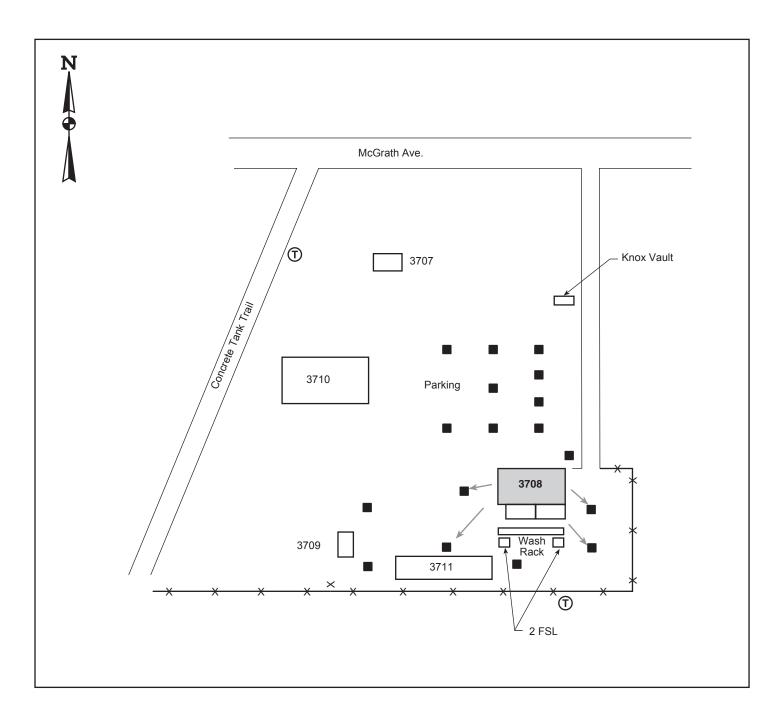
Storage Location Map



Direction of Flow

----- Underground Piping

Not to Scale



Building 3708 Entomology Facility Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map

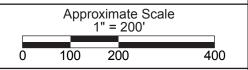


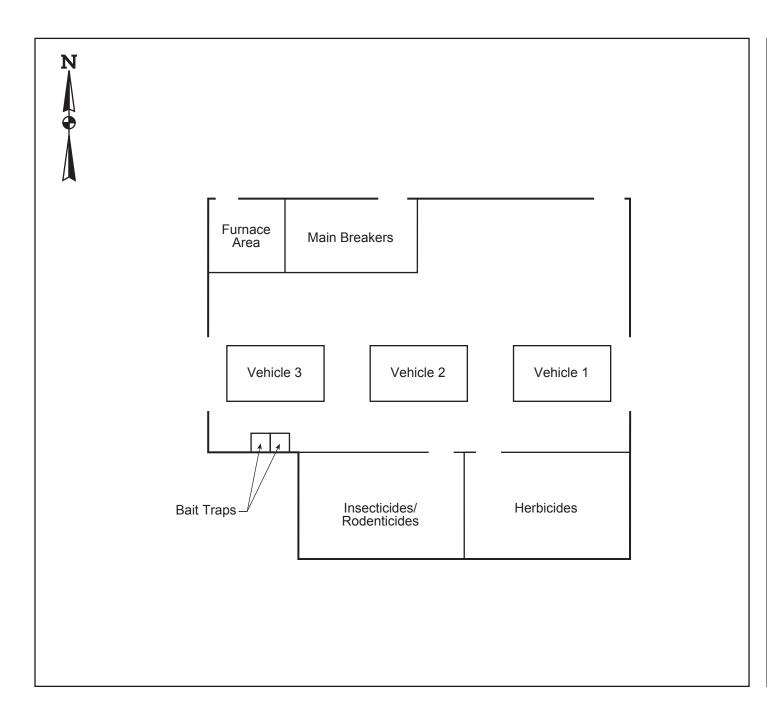
FSL Flammable Storage Locker

X X Fence

Pole-Mounted Transformer

Storm Drain



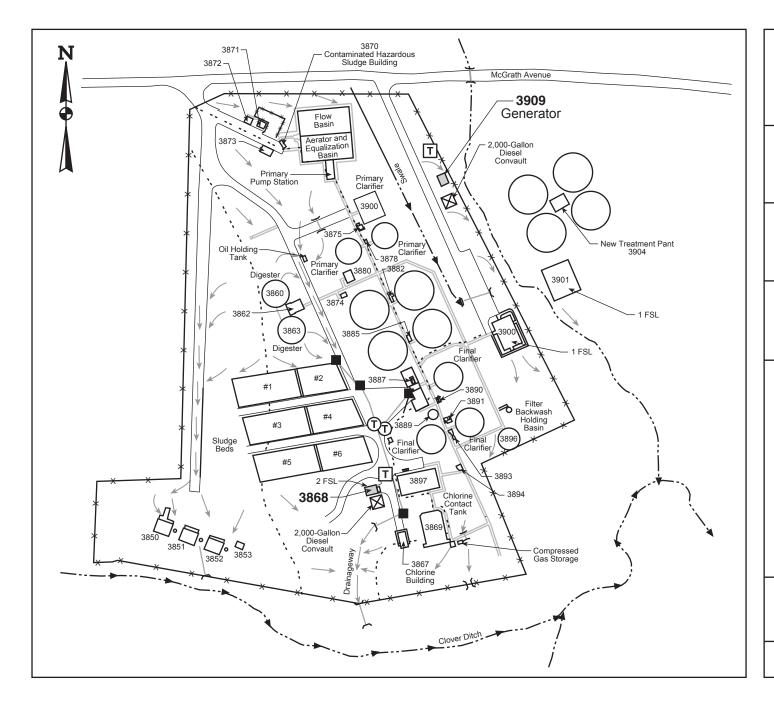


Building 3708 Entomology Facility Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map





Buildings 3868 and 3909 Sewage Treatment Plant Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

FSL Flammable Storage Locker

X X Fence

T Pole-Mounted Transformer

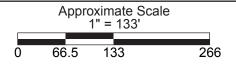
Pad-Mounted Transformer

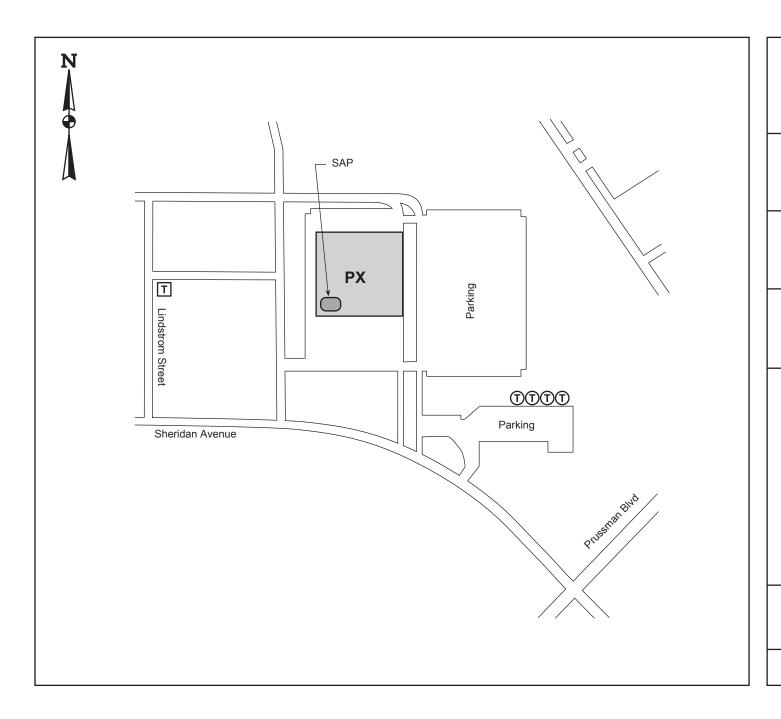
Storm Drain

--- Drainage Ditch/Culvert

Storm Sewer Line

Direction of Flow





Building 6110 PX Fort Carson, CO

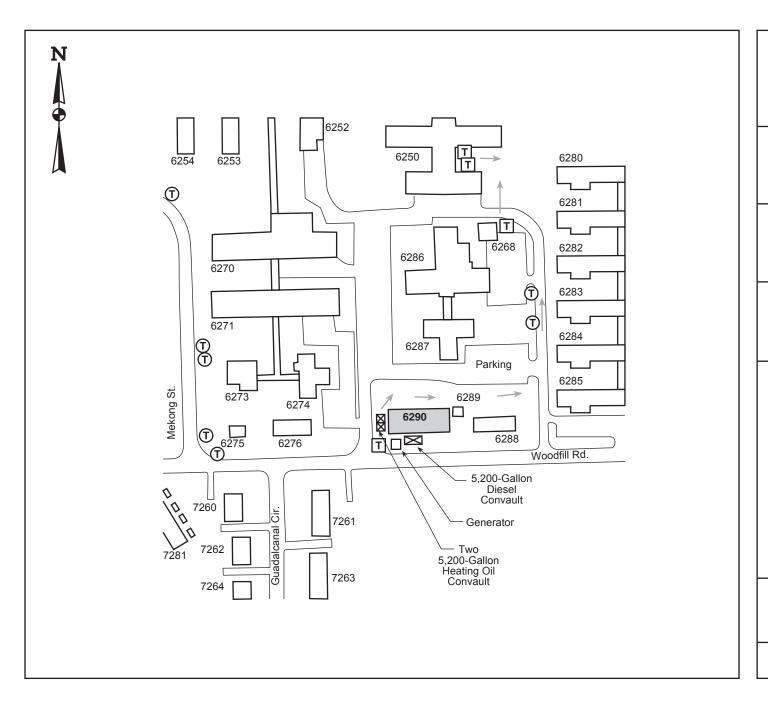
Hazardous Materials Inventory

Storage Location Map



- Pole-Mounted Transformer
 - Pad-Mounted Transformer

Satellite Accumulation Point



Building 6290 Heat Plant Building Fort Carson, CO

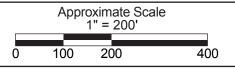
Hazardous Materials Inventory

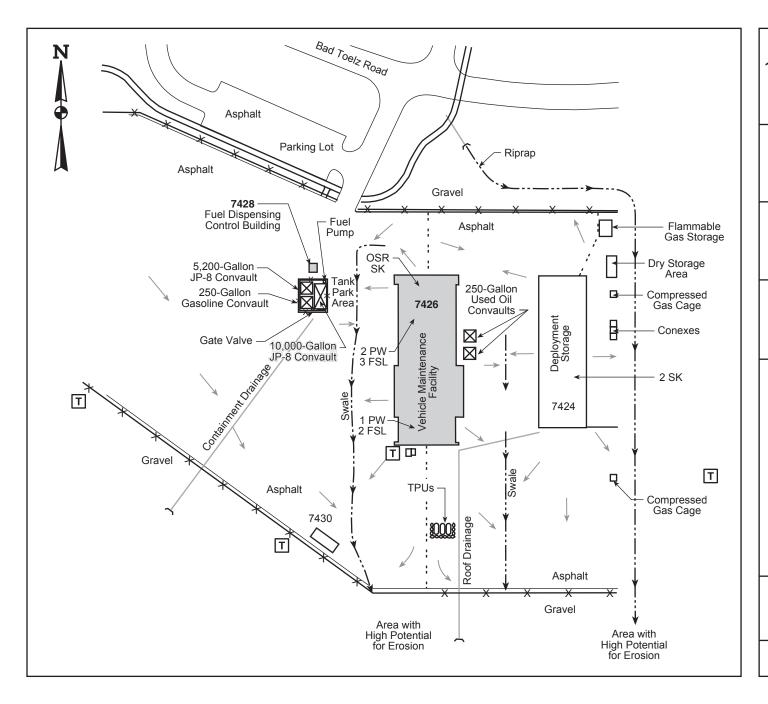
Storage Location Map



Shaw™ Shaw Environmental, Inc.

- - Pole-Mounted Transformer
- Pad-Mounted Transformer
- Direction of Flow





Buildings 7426 and 7428 10th Special Forces Complex Motor Pool Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

OSR Oil Storage Rack

PW Parts Washer

FSL Flammable Storage Locker

SK Spill Kit

X X Fence

T Pole-Mounted Transformer

T Pad-Mounted Transformer

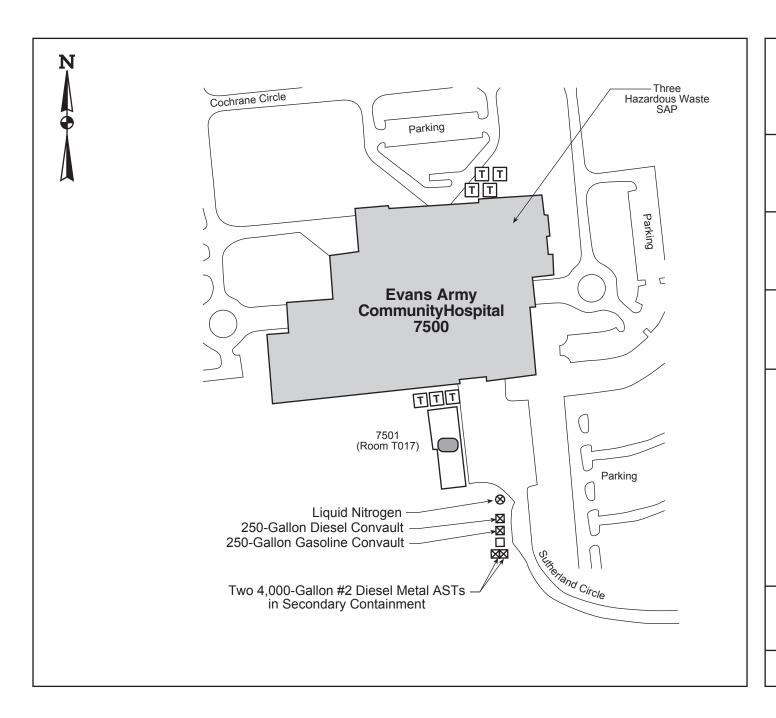
--- Drainage Ditch/Culvert

Storm Sewer Line

Direction of Flow

Sandbag Containment

Approximate Scale 1" = 75' 37.5 75 150



Building 7500 Evans Army Community Hospital Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map

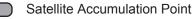


Shaw™ Shaw Environmental, Inc.

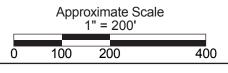
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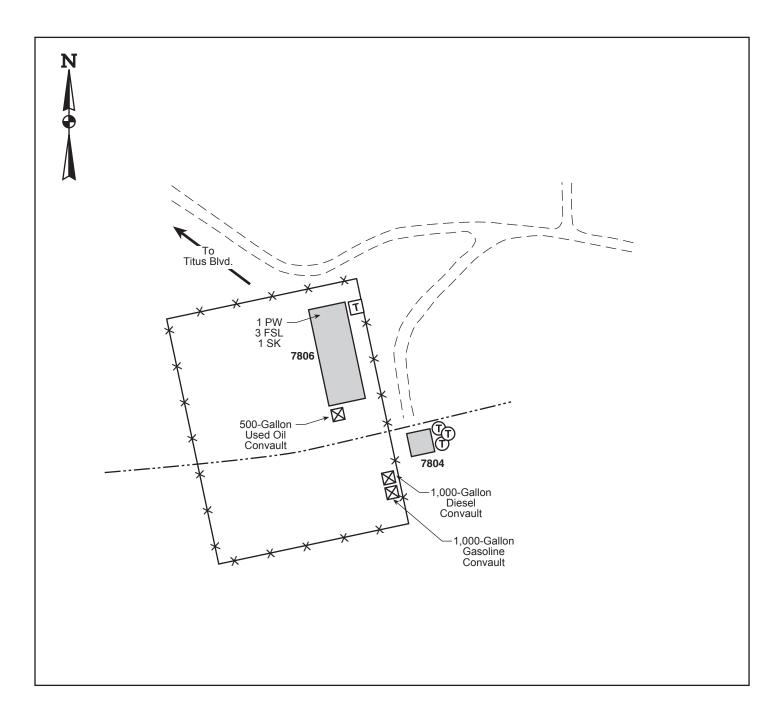
Tank Location

Pad-Mounted Transformer



Room 213 Room 1586 Warehouse





Building 7804/7806 Golf Course Maintenance Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

PW Parts Washer

FSL Flammable Storage Locker

SK Spill Kit

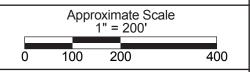
X X Fence

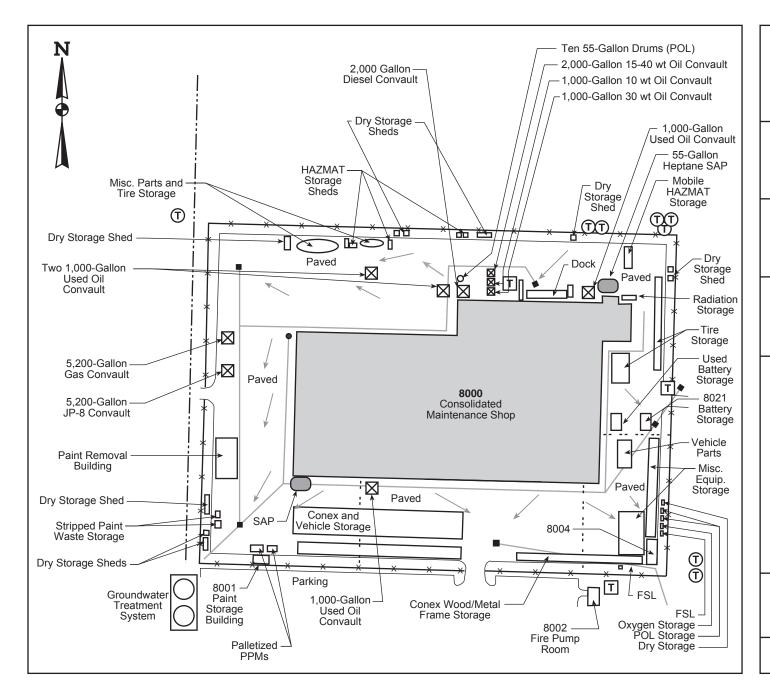
D Pole-Mounted Transformer

Pad-Mounted Transformer

Storm Drain

— --- Drainage Ditch/Culvert





Building 8000 DOL Consolidated Maintenance Fort Carson, CO

Hazardous Materials Inventory

Storage **Location Map**



Shaw™ Shaw Environmental, Inc.

Parts Washer PW

Flammable Storage Locker

SK Spill Kit

X X Fence

X **Tank Location**

(T) Pole-Mounted Transformer

T

Pad-Mounted Transformer

Storm Drain

Drainage Ditch/Culvert

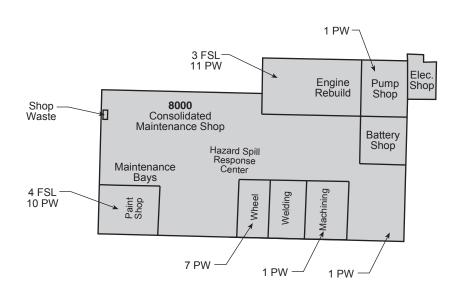
Storm Sewer Line

Direction of Flow

Satellite Accumulation Point

Approximate Scale 1" = 133' 66.5 133 266





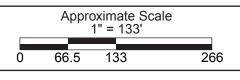
Building 8000 DOL Consolidated Maintenance Fort Carson, CO

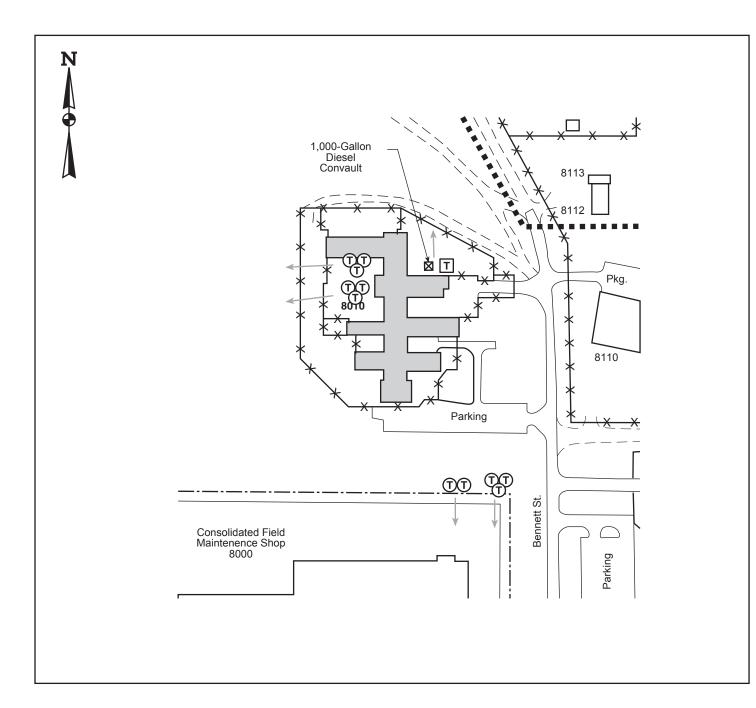
Hazardous Materials Inventory

Storage Location Map



PW Parts Washer
FSL Flammable Storage Locker





Building 8010 Colorado Youth Challenge Corps Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

FSL Flammable Storage Locker

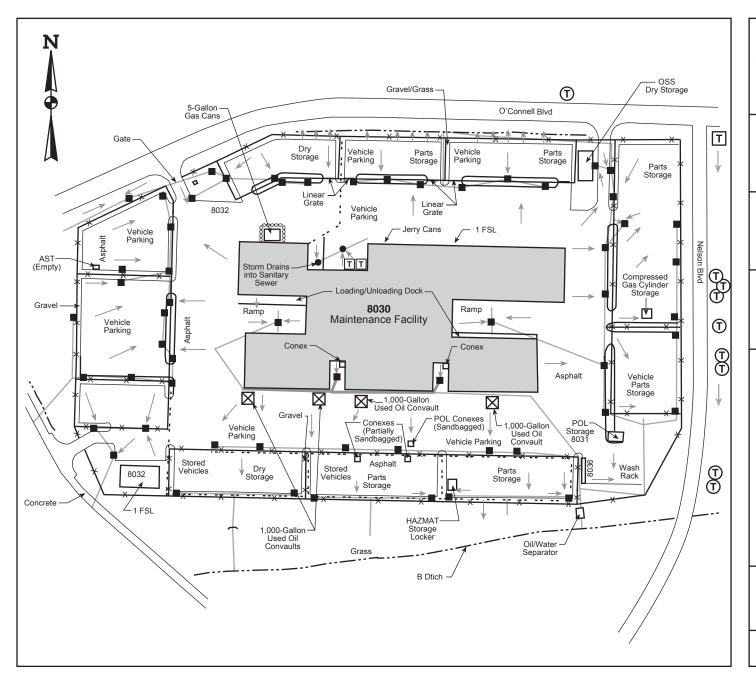
X X Fence

Pole-Mounted Transformer

Pad-Mounted Transformer

---- Drainage Ditch/Culvert

Direction of Flow



Building 8030 Division Maintenance Facility Fort Carson, CO

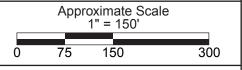
Hazardous Materials Inventory

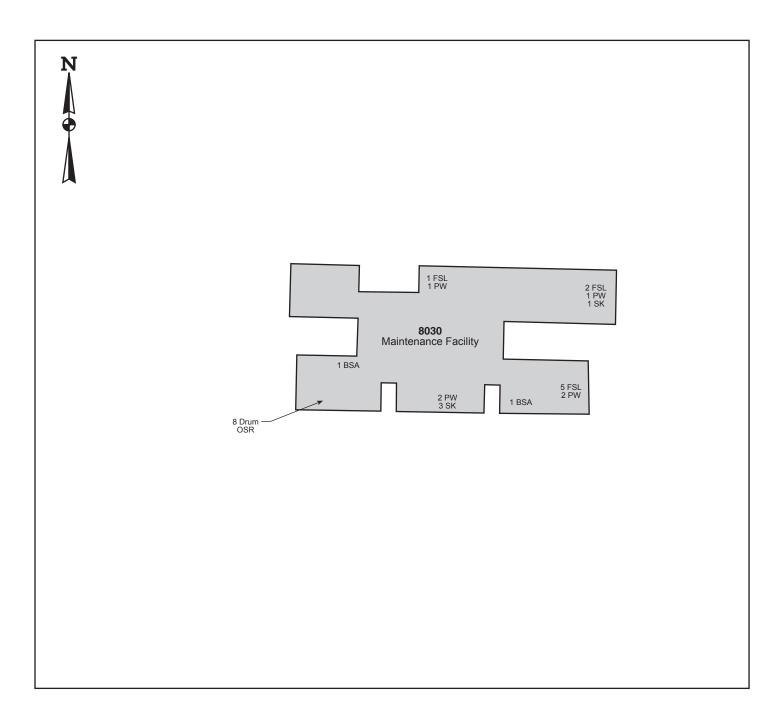
Storage Location Map



Shaw™ Shaw Environmental, Inc.

- FSL Flammable Storage Locker
- X X Fence
- - Pole-Mounted Transformer
- T Pad-Mounted Transformer
- Storm Drain
 - --- Drainage Ditch/Culvert
- Storm Sewer Line
- Direction of Flow
- Sandbag Containment





Building 8030 Division Maintenance Facility Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map

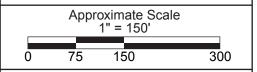


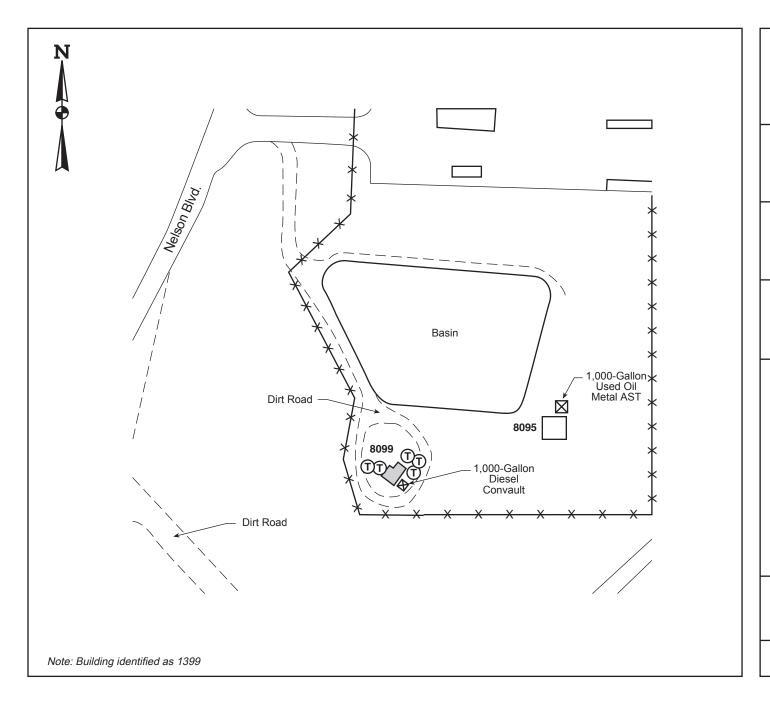
BSA Battery Storage Area OSR Oil Storage Rack

PW Parts Washer

FSL Flammable Storage Locker

SK Spill Kit





Building 8099 Pump Station Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



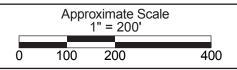
Shaw™ Shaw Environmental, Inc.

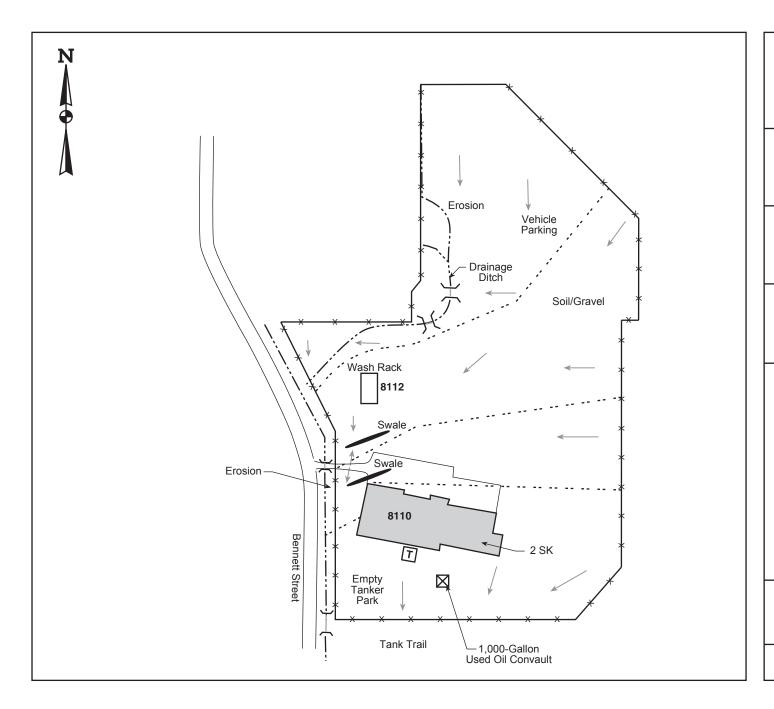
X X Fence

Pole-Mounted Transformer

---- Drainage Ditch/Culvert

Storm Sewer Line





Building 8110 MATES Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

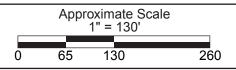
SK Spill Kit

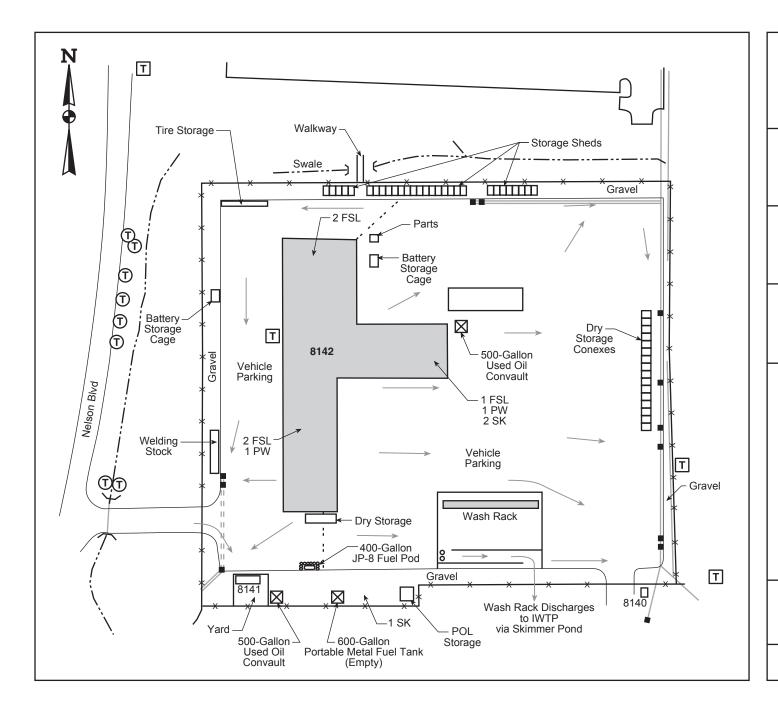
X X Fence

T Pad-Mounted Transformer

-- Drainage Ditch/Culvert

Direction of Flow





Building 8142 68th Support Battalion Motor Pool Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

PW Parts Washer

FSL Flammable Storage Locker

SK Spill Kit

X X Fence

(T) Pole-Mounted Transformer

T Pad-Mounted Transformer

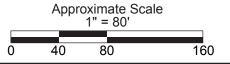
Storm Drain

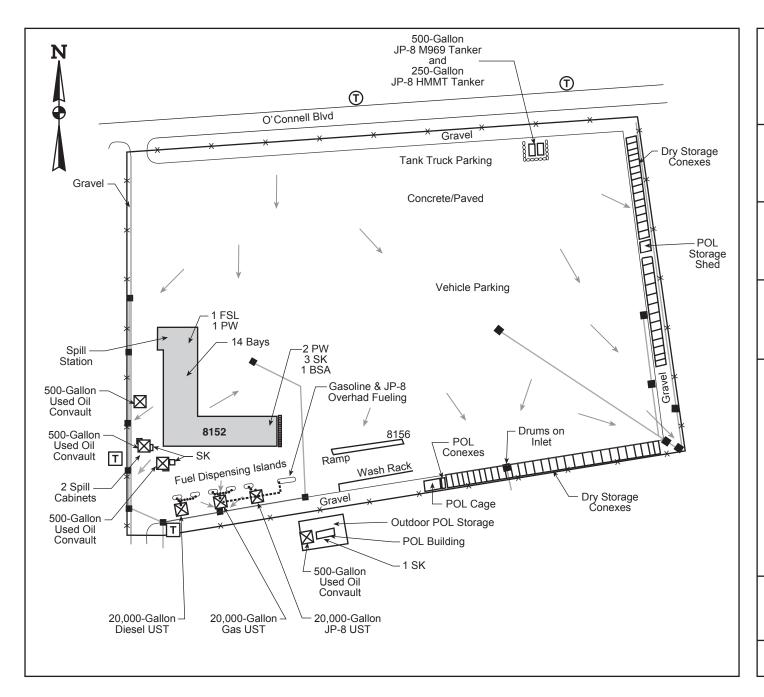
— --- Drainage Ditch/Culvert

— Storm Sewer Line

Direction of Flow

Sandbag Containment





Building 8152 68th Support Battalion Motor Pool Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



BSA Battery Storage Area

PW Parts Washer

SL Flammable Storage Locker

SK Spill Kit X Y Fence

Tank Location

Pole-Mounted Transformer

Pad-Mounted Transformer

Storm Drain

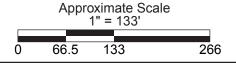
Storm Sewer Line

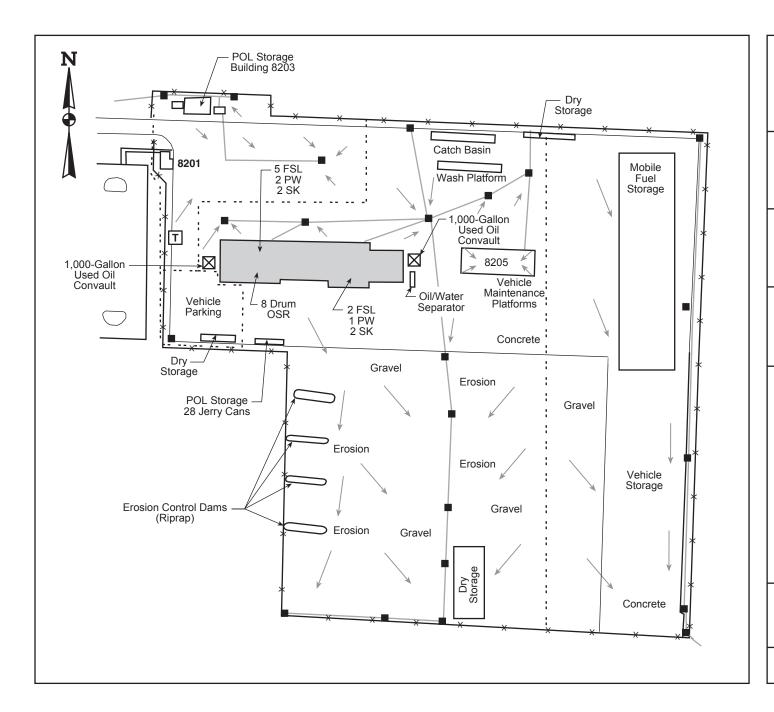
Direction of Flow

Sandbag Containment

Underground Piping

Overhead Piping





Building 8200 64th Forward Support Battalion Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

OSR Oil Storage Rack

PW Parts Washer

FSL Flammable Storage Locker

SK Spill Kit

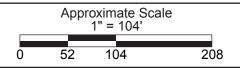
X X Fence

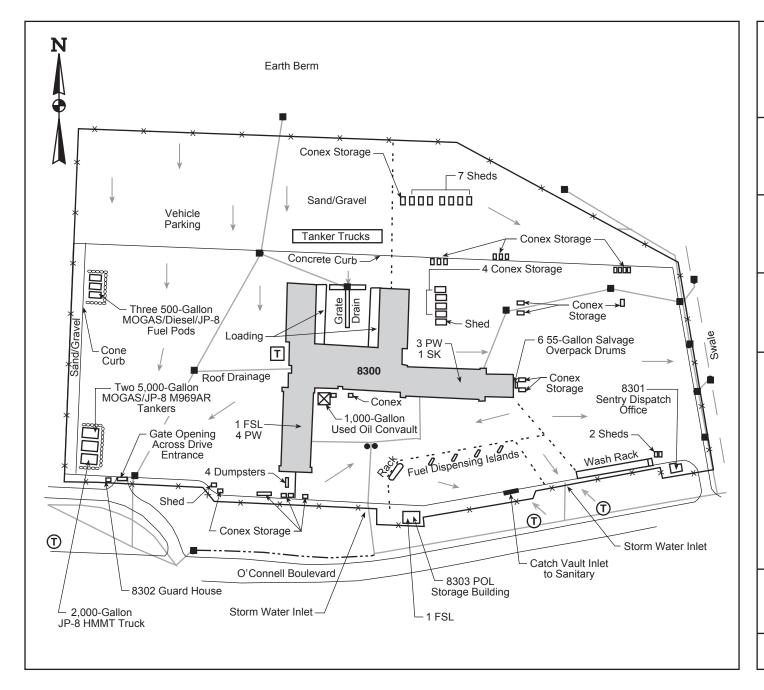
Pad-Mounted Transformer

Storm Drain

— Storm Sewer Line

Direction of Flow





Building 8300 3rd ACR Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

PW Parts Washer

FSL Flammable Storage Locker

SK Spill Kit

X X Fence

T) Pole-Mounted Transformer

Pad-Mounted Transformer

Storm Drain

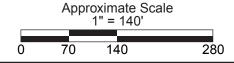
--- Drainage Ditch/Culvert

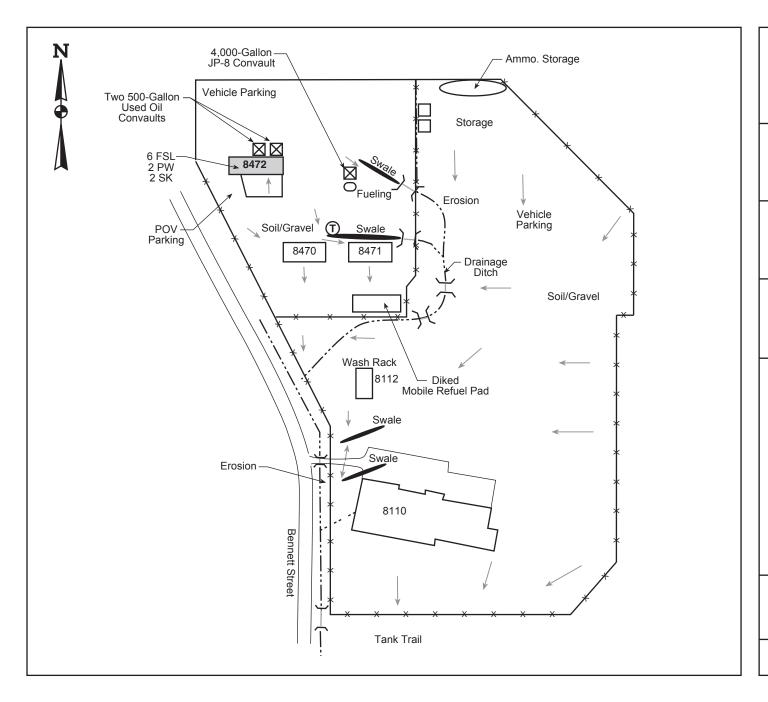
— Storm Sewer Line

Direction of Flow

Sandbag Containment

Sandbag Containment





Building 8472 Colorado National Guard Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

PW Parts Washer

FSL Flammable Storage Locker

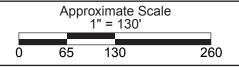
SK Spill Kit

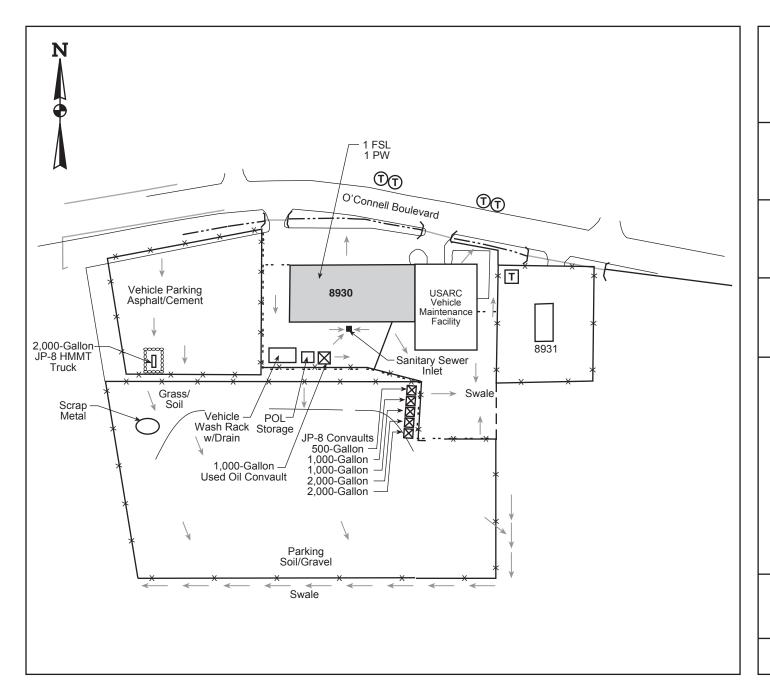
X X Fence

Pole-Mounted Transformer

Drainage Ditch/Culvert

Direction of Flow





Building 8930 ECS-Army Reserves Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

PW Parts Washer

FSL Flammable Storage Locker

X X Fence

Pole-Mounted Transformer

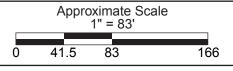
T Pad-Mounted Transformer

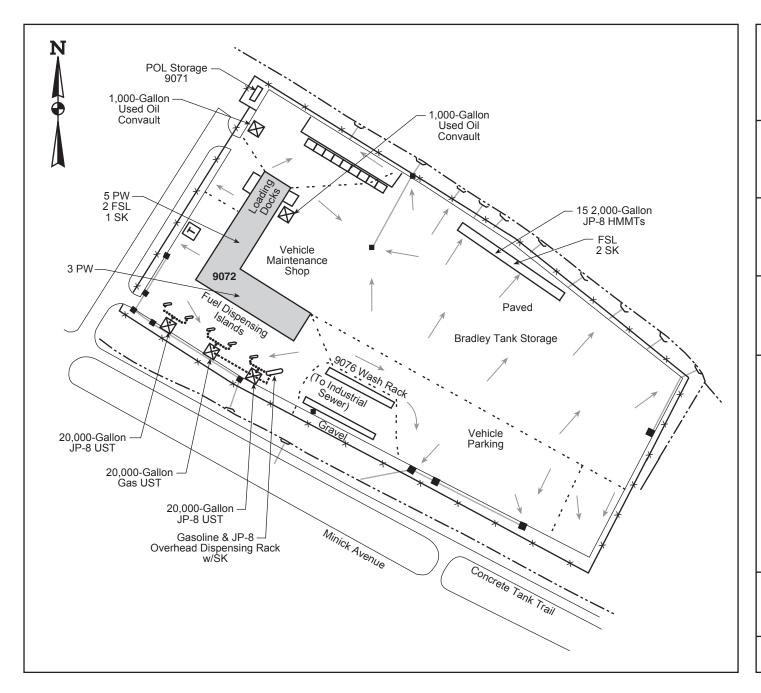
Storm Drain

--- Drainage Ditch/Culvert

Direction of Flow

Sandbag Containment





Building 9072 3/3 ACR Motor Pool Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

PW Parts Washer

FSL Flammable Storage Locker

SK Spill Kit

X X Fence

T Pad-Mounted Transformer

Storm Drain

— --- Drainage Ditch/Culvert

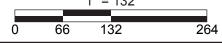
— Storm Sewer Line

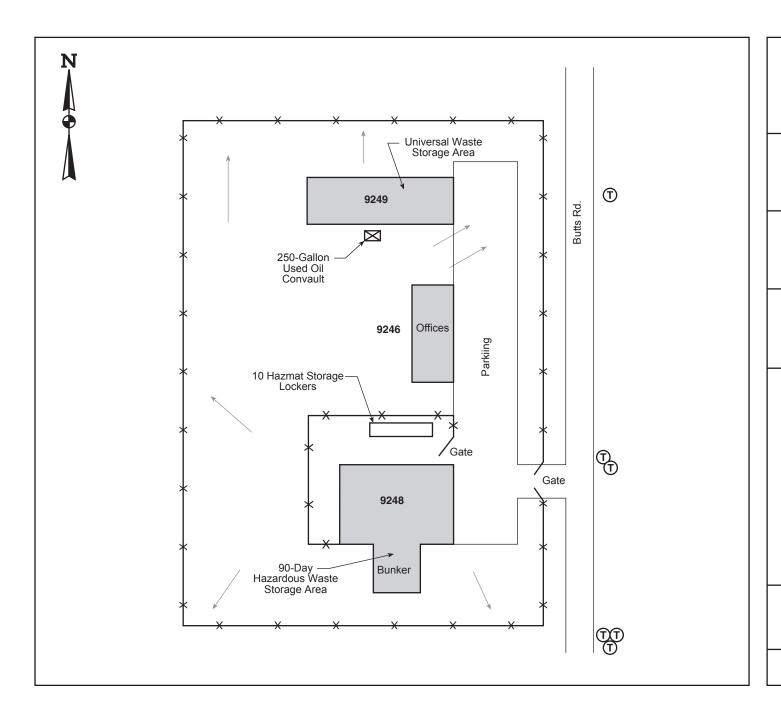
Direction of Flow

...... Underground Piping

- Overhead Piping

Approximate Scale 1" = 132'





Buildings 9246, 9248 and 9249 Hazardous Waste Storage Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map

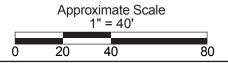


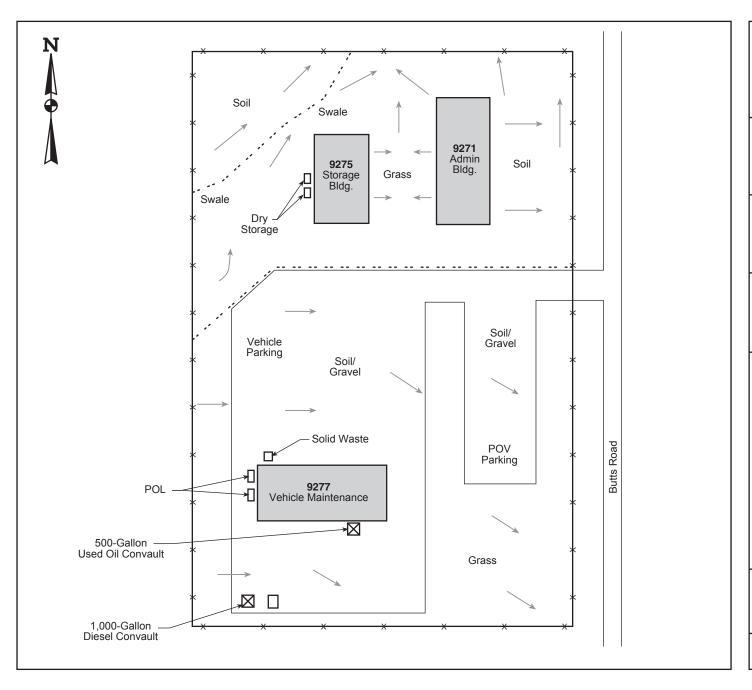
X X Fence

Tank Location

Pole-Mounted Transformer

Direction of Flow





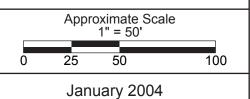
Building 9277 SEABEES Reserve (U.S. Navy) Fort Carson, CO

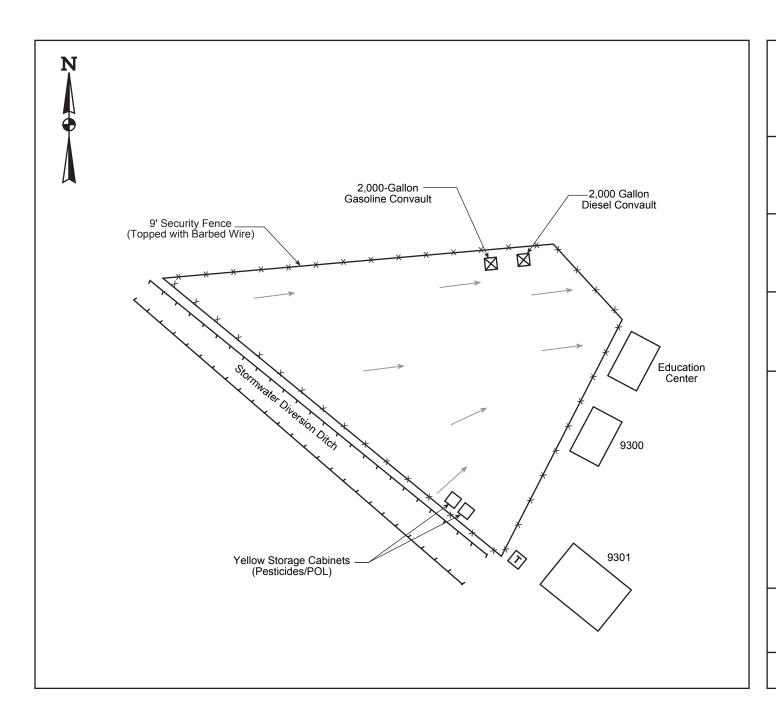
Hazardous Materials Inventory

Storage Location Map









Building 9300 Wildlife Motor Pool Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map

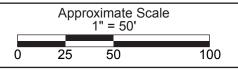


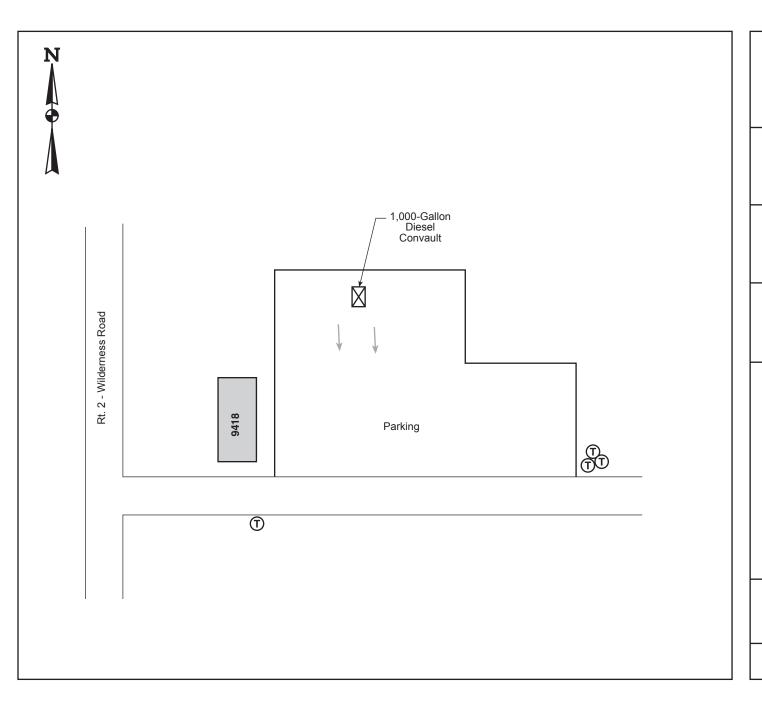
Shaw™ Shaw Environmental, Inc.

X X Fence

Pad-Mounted Transformer

Direction of Flow





Building 9418 Ammunition Storage Point Fort Carson, CO

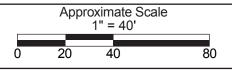
Hazardous Materials Inventory

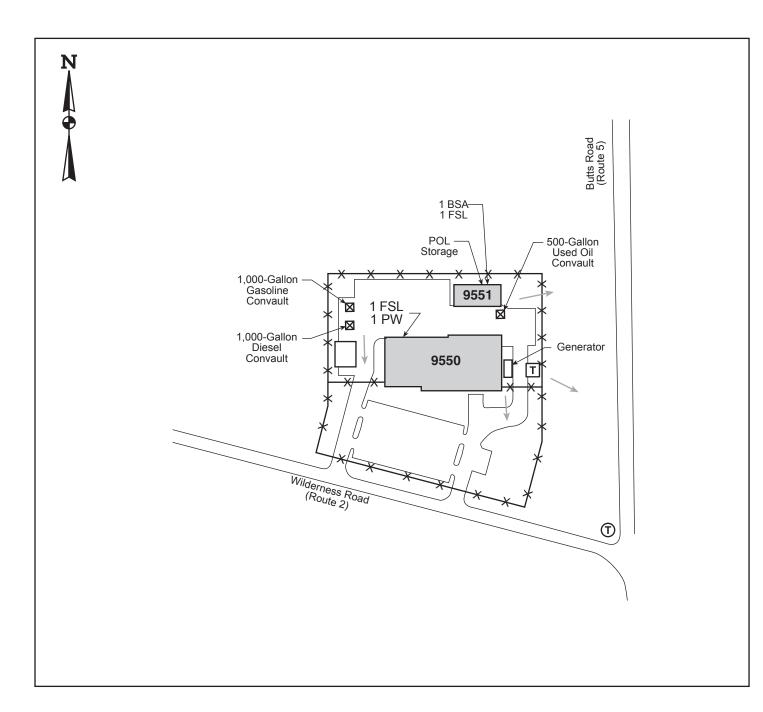
Storage Location Map



Tole-Mounted Transformer

Direction of Flow





Buildings 9550 and 9551 Range Control Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

BSA Battery Storage Area

PW Parts Washer

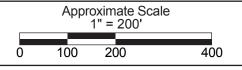
FSL Flammable Storage Locker

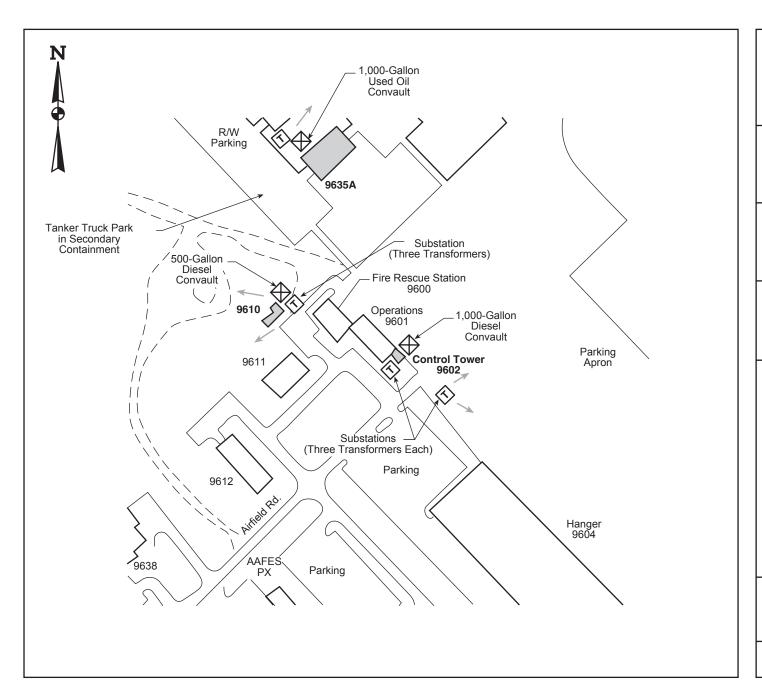
X X Fence

T Pad-Mounted Transformer

Pole-Mounted Transformer

Direction of Flow



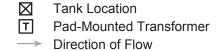


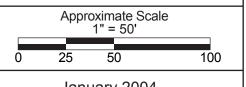
Bldgs. 9602, 9610 and 9635 Butts Airfield Fort Carson, CO

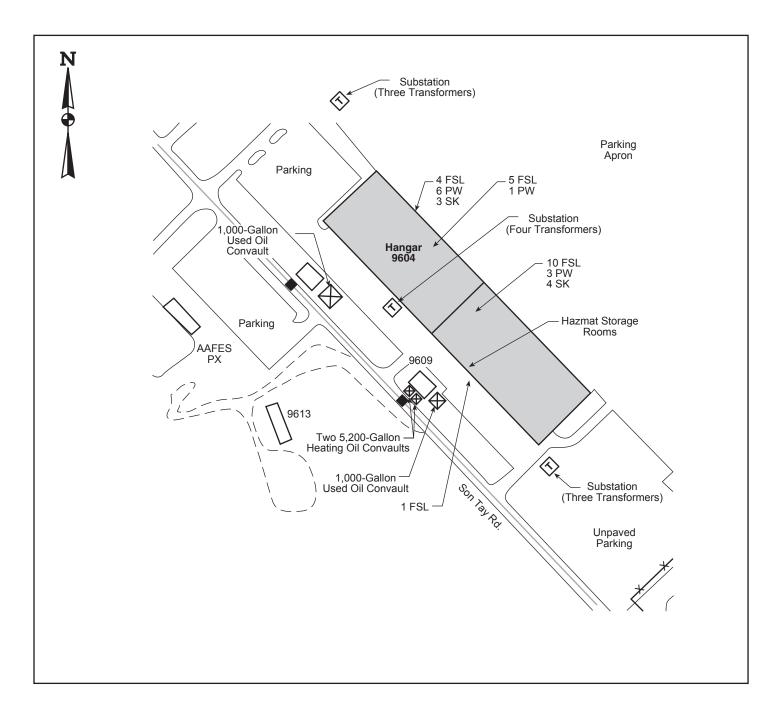
Hazardous Materials Inventory

Storage Location Map









Building 9604 Butts Airfield Aircraft Maintenance Hangar Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

PW Parts Washer

FSL Flammable Storage Locker

SK Spill Kit

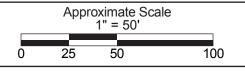
X X Fence

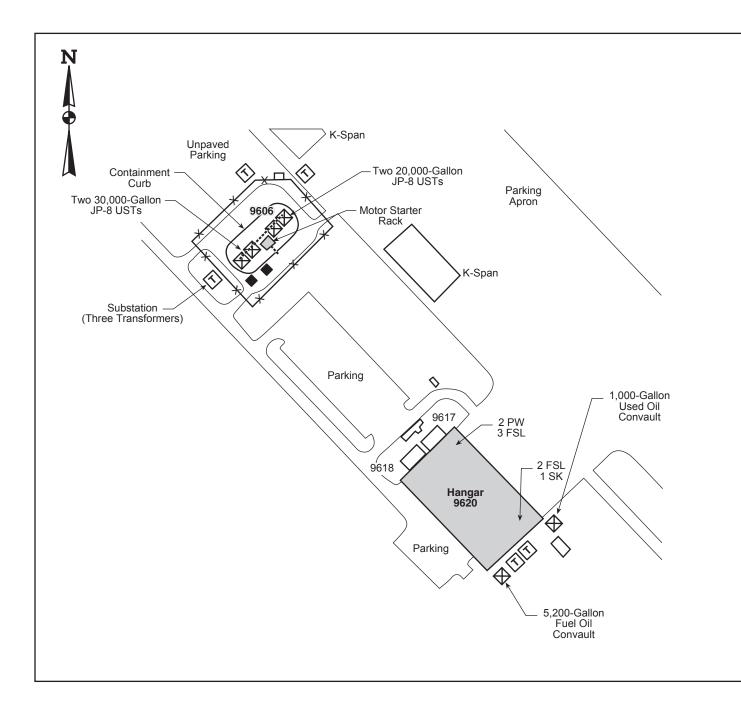
T Pad-Mounted Transformer

Storm Drain

- Storm Sewer Line

Direction of Flow





Buildings 9606 and 9620 3rd ACR Aircraft Maintenance Hangar Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

PW Parts Washer

FSL Flammable Storage Locker

SK Spill Kit

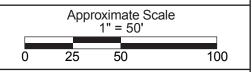
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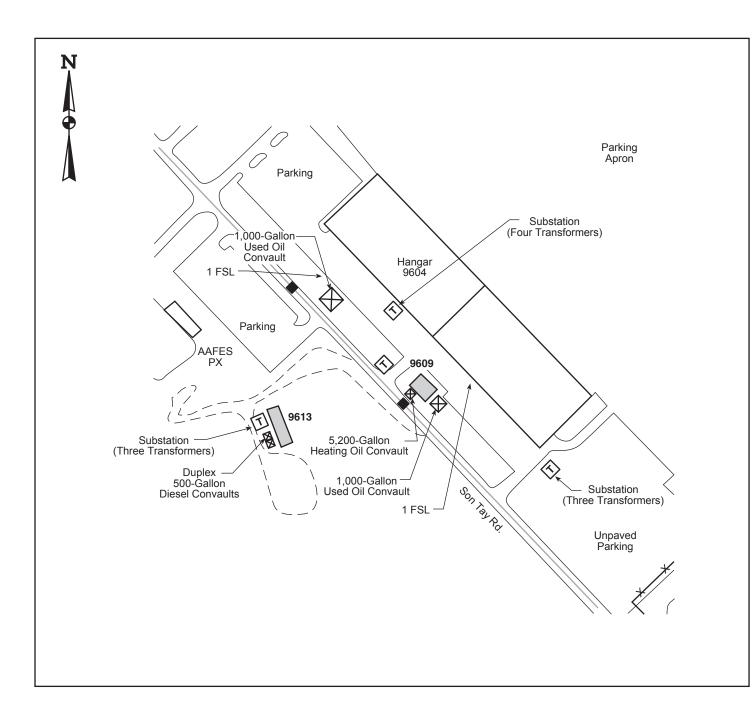
▼ Tank Location

T Pad-Mounted Transformer

Storm Drain

----- Overhead Piping





Buildings 9609 and 9613 Butts Airfield Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



FSL Flammable Storage Locker

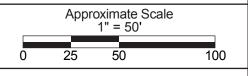
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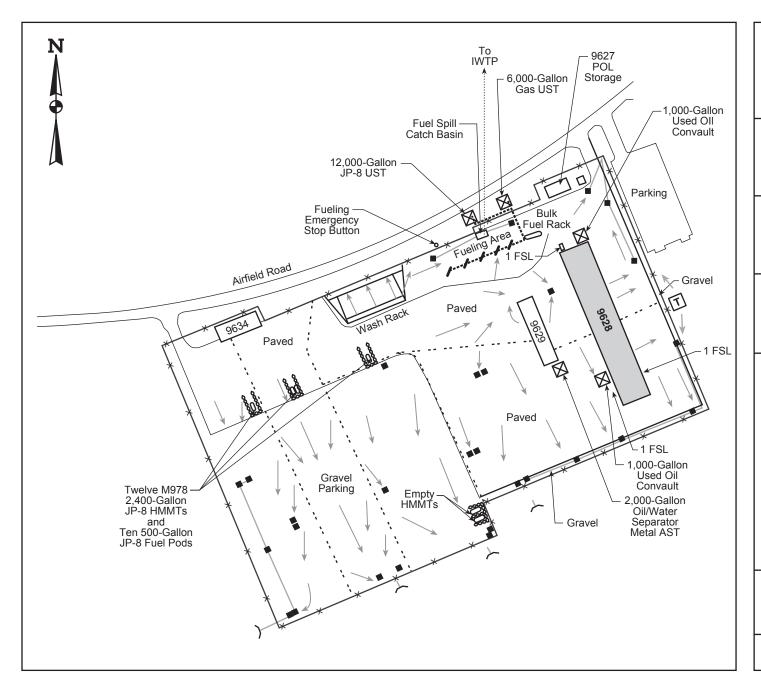
T Pad-Mounted Transformer

Storm Drain

— Storm Sewer Line

Direction of Flow





Building 9628 3rd ACR Motor Pool Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

FSL Flammable Storage Locker

X X Fence

T Pad-Mounted Transformer

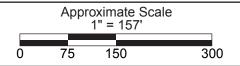
Storm Drain

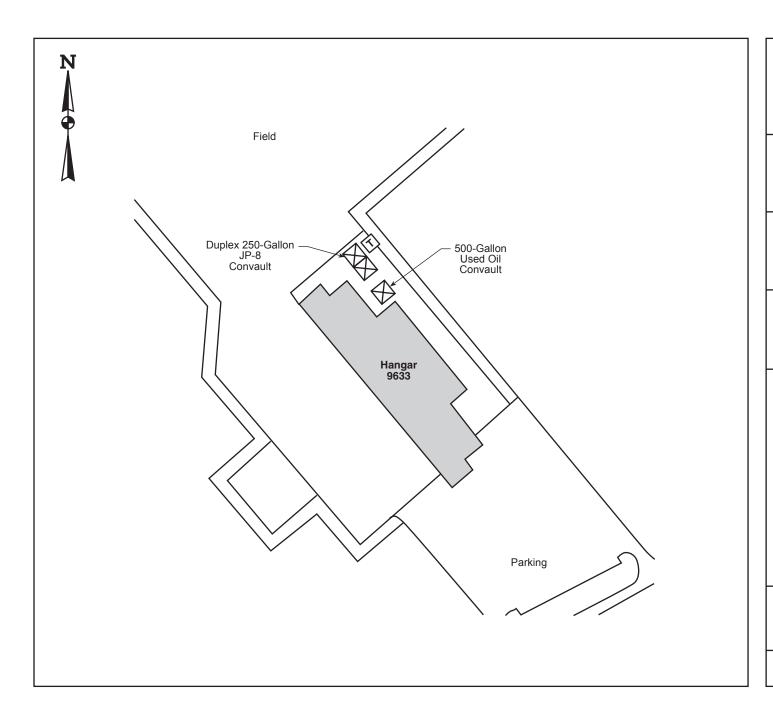
— Storm Sewer Line

Direction of Flow

Sandbag Containment

----- Overhead Piping





Building 9633 3rd ACR, Squadron 4 Aircraft Maintenance Hangar Fort Carson, CO

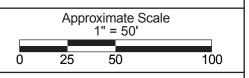
Hazardous Materials Inventory

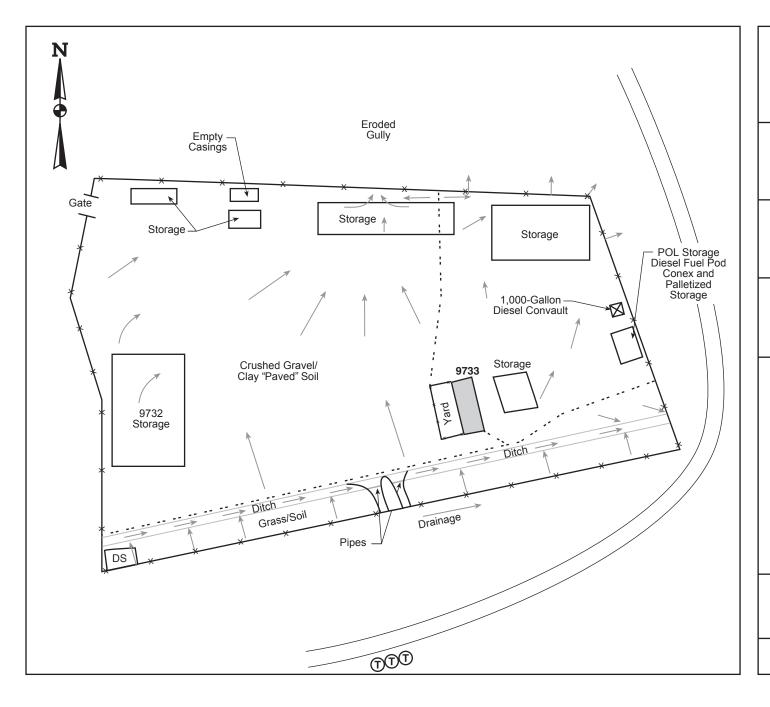
Storage Location Map



Pad-Mounted Transformer

Direction of Flow





Building 9733 Ammunition Residue Recycling Facility Fort Carson, CO

Hazardous Materials Inventory

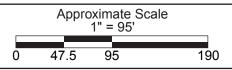
Storage Location Map

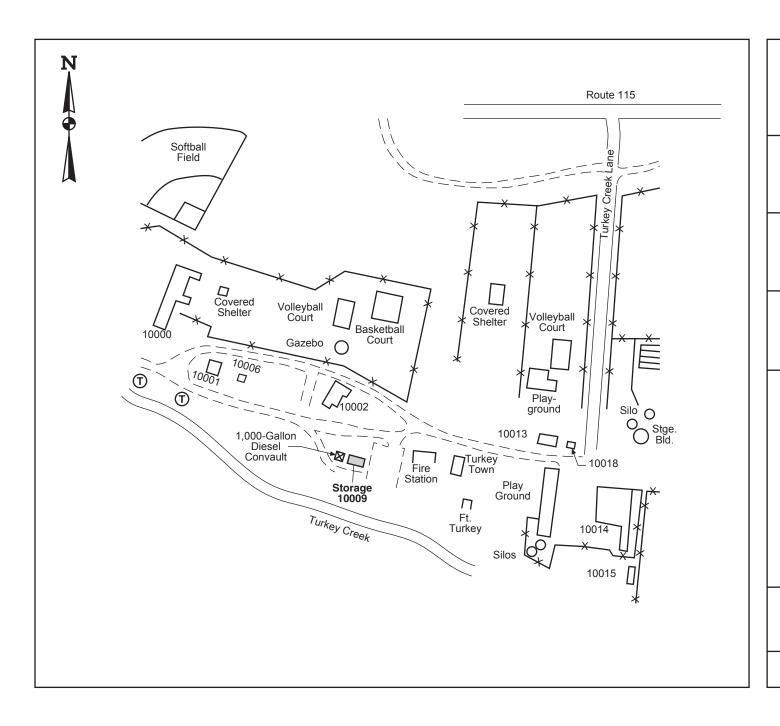


X X Fence

Direction of Flow

Pole-Mounted Transformer





Building 10009 Fire Station Storage Fort Carson, CO

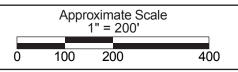
Hazardous Materials Inventory

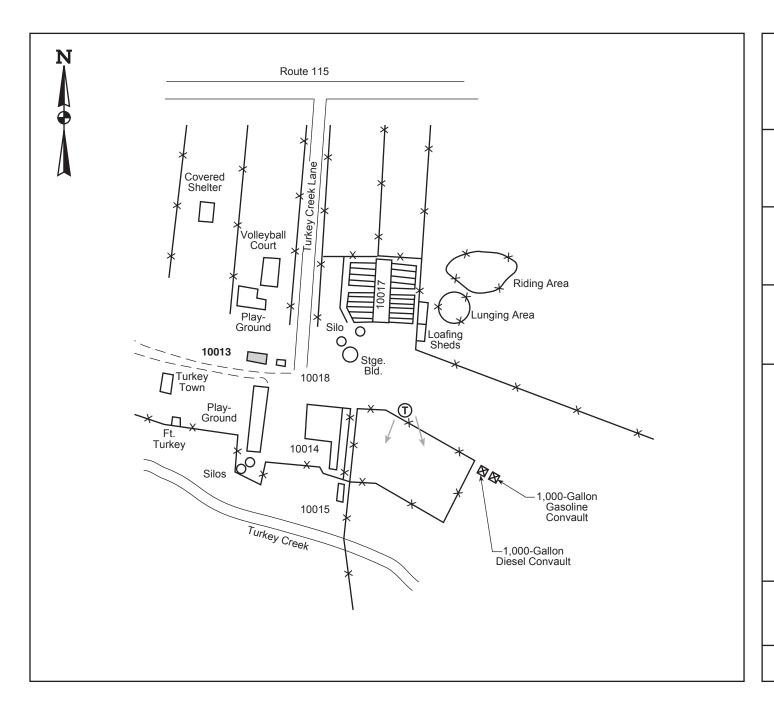
Storage Location Map



X X Fence

Pole-Mounted Transformer





Building 10013 Turkey Creek Recreation Area Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map

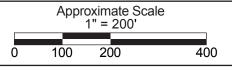


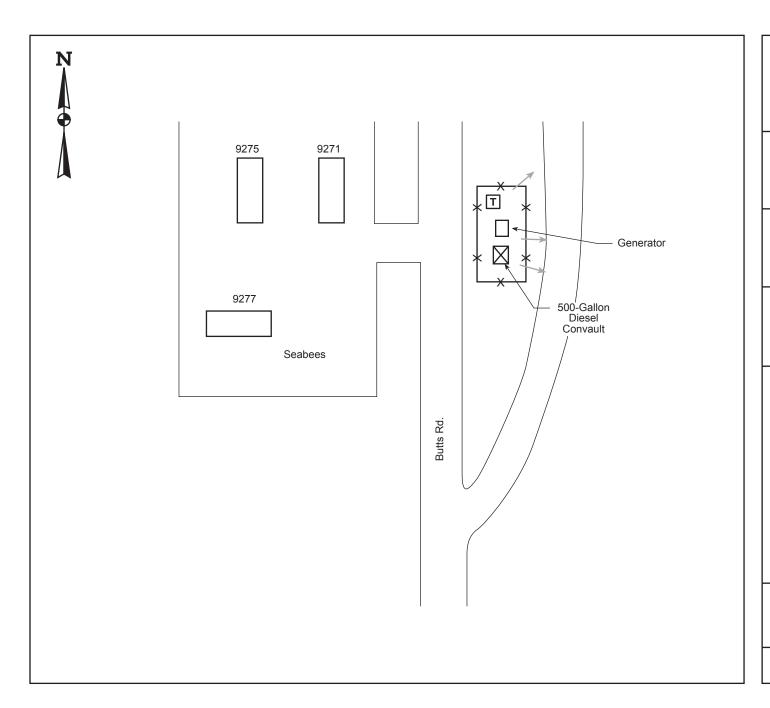
Shaw™ Shaw Environmental, Inc.

X X Fence

T Pole-Mounted Transformer

Direction of Flow





Butts Road Pump Station (9299) Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map

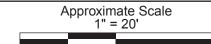


Shaw[™] Shaw Environmental, Inc.

X X Fence

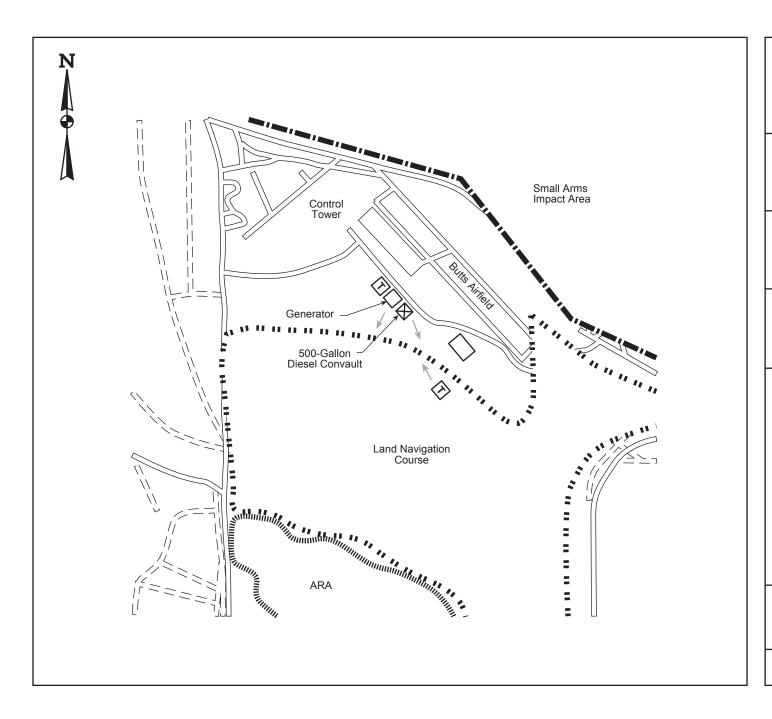
Pad-Mounted Transformer

Direction of Flow



January 2004

40



Butts Road Pump Station 9699 Fort Carson, CO

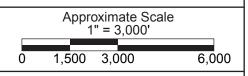
Hazardous Materials Inventory

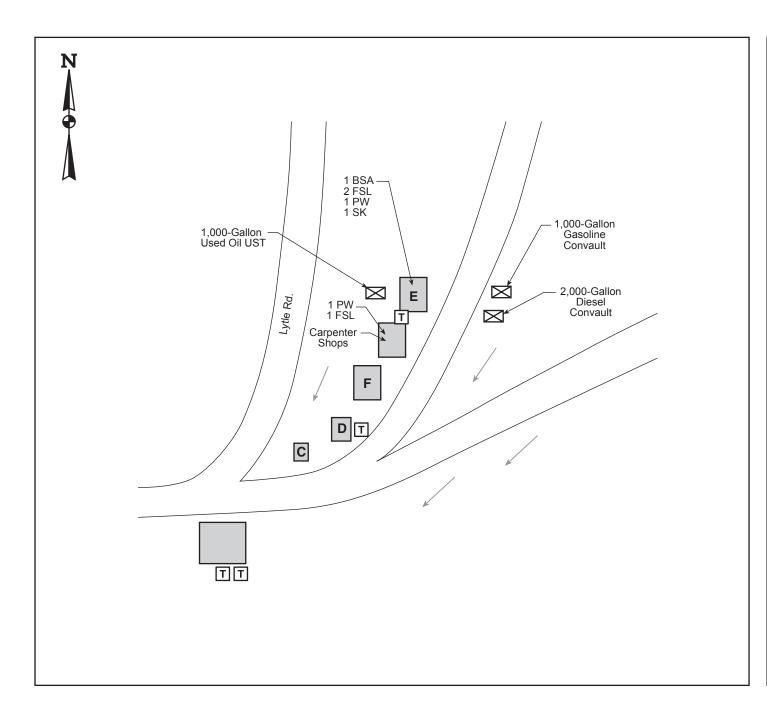
Storage Location Map



Pad-Mounted Transformer

Direction of Flow





MPRC Range Support Facility Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map



Shaw™ Shaw Environmental, Inc.

BSA Battery Storage Area

PW Parts Washer

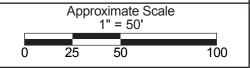
FSL Flammable Storage Locker

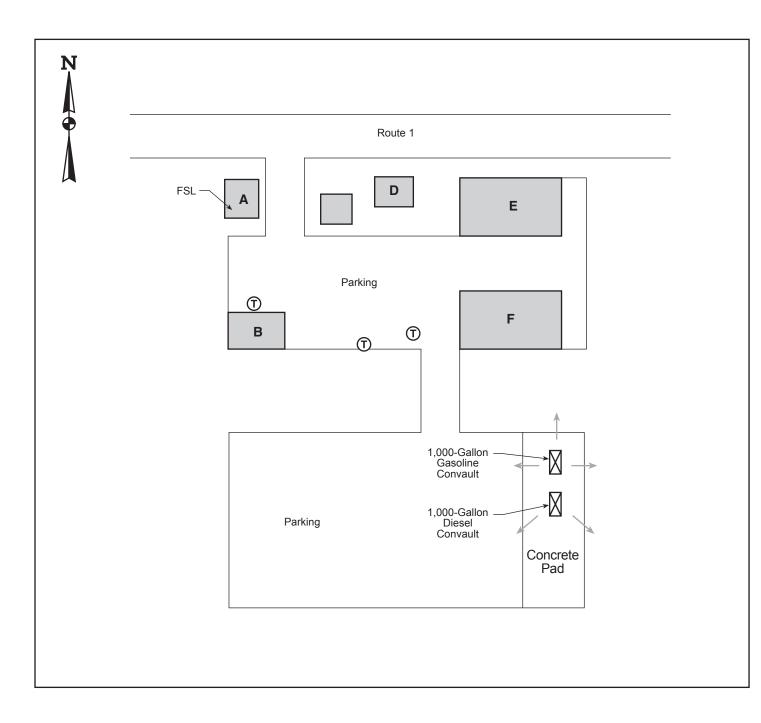
SK Spill Kit

T

Pad-Mounted Transformer

Direction of Flow





Range 109 Support Facility Fort Carson, CO

Hazardous Materials Inventory

Storage Location Map

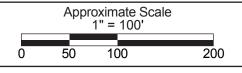


FSL Flammable Storage Locker

▼ Tank Location

Pole-Mounted Transformer

Direction of Flow



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10.0 SECURITY

The majority of Fort Carson's POL and hazardous substance storage areas are located within fenced and lighted areas. Units responsible for specific ConVault tanks lock the tanks and limit access to the tank area. All areas are regularly patrolled by the military police and unauthorized personnel are not permitted free range on the reservation. In addition, since late 2001, Fort Carson has been a closed post. All access gates are guarded 24 hours per day, 7 days per week. Persons without post stickers are issued daily passes that must be displayed.

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APPENDIX A

40 CFR 112, APPENDIX F OIL POLLUTION PREVENTION FACILITY-SPECIFIC RESPONSE PLAN

TITLE 40 - PROTECTION OF ENVIRONMENT

(Division: Clean Water Act / Water Programs (CWA))

Revision Date - 04/17/2003

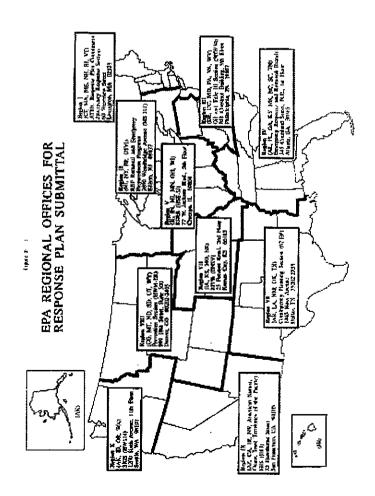
Part 112 - Oil Pollution Prevention

Appendix F - Facility-Specific Response Plan

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1.3.5Evacuation Plans
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3.0Acronyms
4.0 References

- 1.0 Model Facility-Specific Response Plan
- (A) Owners or operators of facilities regulated under this part which pose a threat of substantial harm to the environment by discharging oil into or on navigable waters or adjoining shorelines are required to prepare and submit facility-specific response plans to EPA in accordance with the provisions in this appendix. This appendix further describes the required elements in §112.20(h).
- ¶ (B) Response plans must be sent to the appropriate EPA Regional office. Figure F-1 of this Appendix lists each EPA Regional office and the address where owners or operators must submit their response plans. Those facilities deemed by the Regional Administrator (RA) to pose a threat of significant and substantial harm to the environment will have their plans reviewed and approved by EPA. In certain cases, information required in the model response plan is similar to information currently maintained in the facility's Spill Prevention, Control, and Countermeasures (SPCC) Plan as required by 40 CFR 112.3. In these cases, owners or operators may reproduce the information and include a photocopy in the response plan.
- (C) A complex may develop a single response plan with a set of core elements for all regulating agencies and separate sections for the non-transportation-related and transportation-related components, as described in §112.20(h). Owners or operators of large facilities that handle, store, or transport oil at more than one geographically distinct location (e.g., oil storage areas at opposite ends of a single, continuous parcel of property) shall, as appropriate, develop separate sections of the response plan for each storage area.



1.1 Emergency Response Action Plan

Several sections of the response plan shall be co-located for easy access by response personnel during an actual emergency or oil discharge. This collection of sections shall be called the Emergency Response Action Plan. The Agency intends that the Action Plan contain only as much information as is necessary to combat the discharge and be arranged so response actions are not delayed. The Action Plan may be arranged in a number of ways. For example, the sections of the Emergency Response Action Plan may be photocopies or condensed versions of the forms included in the associated sections of the response plan. Each Emergency Response Action Plan section may be tabbed for quick reference. The Action Plan shall be maintained in the front of the same binder that contains the complete response plan or it shall be contained in a separate binder. In the latter case, both binders shall be kept together so that the entire plan can be accessed by the qualified individual and appropriate spill response personnel. The Emergency Response Action Plan shall be made up of the following sections:

- 1. Qualified Individual Information (Section 1.2) partial
- 2. Emergency Notification Phone List (Section 1.3.1) partial
- 3. Spill Response Notification Form (Section 1.3.1) partial
- 4. Response Equipment List and Location (Section 1.3.2) complete
- 5. Response Equipment Testing and Deployment (Section 1.3.3) complete
- 6. Facility Response Team (Section 1.3.4) partial
- 7. Evacuation Plan (Section 1.3.5) condensed
- 8. Immediate Actions (Section 1.7.1) complete
- 9. Facility Diagram (Section 1.9) complete

1.2 Facility Information

The facility information form is designed to provide an overview of the site and a description of past activities at the facility. Much of the information required by this section may be obtained from the facility's existing SPCC Plan.

1.2.1Facility name and location: Enter facility name and street address. Enter the address of corporate headquarters only if corporate headquarters are physically located at the facility. Include city, county, state, zip code, and phone number.
1.2.2 Latitude and Longitude: Enter the latitude and longitude of the facility. Include degrees, minutes, and seconds of the main entrance of the facility.
1.2.3Wellhead Protection Area: Indicate if the facility is located in or drains into a wellhead protection area as defined by the Safe Drinking Water Act of 1986 (SDWA). 1 The response plan requirements in the Wellhead Protection Program are outlined by the State or Territory in which the facility resides.
1A wellhead protection area is defined as the surface and subsurface area surrounding a water well or wellfield, supplying a public water system, through which contaminants are reasonably likely to move toward and reach such water well or wellfield. For further information regarding State and territory protection programs, facility owners or operators may contact the SDWA Hotline at 1-800-426-4791.
1.2.4 Owner/operator: Write the name of the company or person operating the facility and the name of the person or company that owns the facility, if the two are different. List the address of the owner, if the two are different.
1.2.5Qualified Individual: Write the name of the qualified individual for the entire facility. If more than one person is listed, each individual indicated in this section shall have full authority to implement the facility response plan. For each individual, list: name, position, home and work addresses (street addresses, not P.O. boxes), emergency phone number, and specific response training experience.
1.2.6Date of Oil Storage Start-up: Enter the year which the present facility first started storing oil.
1.2.7Current Operation: Briefly describe the facility's operations and include the North American Industrial Classification System (NAICS) code.
1.2.8Dates and Type of Substantial Expansion: Include information on expansions that have occurred at the facility. Examples of such expansions include, but are not limited to: Throughput expansion, addition of a product line, change of a product line, and installation of additional oil storage capacity. The data provided shall include all facility historical information and detail the expansion of the facility. An example of substantial expansion is any material alteration of the facility which causes the owner or operator of the facility to re-evaluate and increase the response equipment necessary to adequately respond to a worst case discharge from the facility.
Date of Last Update:
Facility Information Form
Facility Name:Location (Street Address):
City: State: Zip:

County: Phone Number: ()
Latitude: Degrees Minutes Seconds
Longitude: Degrees Minutes Seconds
Wellhead Protection Area: Owner:Owner Location (Street Address):
(if different from Facility Address)
City: State: Zip:
County: Phone Number: ()
Operator (if not Owner):
Qualified Individual(s): (attach additional sheets if more than one)
Name:Position:Work Address:Home Address:Emergency Phone Number:Date of Oil Storage Start-up: Current Operations: Date(s) and Type(s) of Substantial Expansion(s):
(Attach additional sheets if necessary)
1.3 Emergency Response Information

- ¶ (A) The information provided in this section shall describe what will be needed in an actual emergency involving the discharge of oil or a combination of hazardous substances and oil discharge. The Emergency Response Information section of the plan must include the following components:
 - ¶ (1) The information provided in the Emergency Notification Phone List in section 1.3.1 identifies and prioritizes the names and phone numbers of the organizations and personnel that need to be notified immediately in the event of an emergency. This section shall include all the appropriate phone numbers for the facility. These numbers must be verified each time the plan is updated. The contact list must be accessible to all facility employees to ensure that, in case of a discharge, any employee on site could immediately notify the appropriate parties.
 - To (2) The Spill Response Notification Form in section 1.3.1 creates a checklist of information that shall be provided to the National Response Center (NRC) and other response personnel. All information on this checklist must be known at the time of notification, or be in the process of being collected. This notification form is based on a similar form used by the NRC. Note: Do not delay spill notification to collect the information on the list.
 - ¶ (3) Section 1.3.2 provides a description of the facility's list of emergency response equipment and location of the response equipment. When appropriate, the amount of oil that emergency

response equipment can handle and any limitations (e.g., launching sites) must be described.

- ¶ (4) Section 1.3.3 provides information regarding response equipment tests and deployment drills. Response equipment deployment exercises shall be conducted to ensure that response equipment is operational and the personnel who would operate the equipment in a spill response are capable of deploying and operating it. Only a representative sample of each type of response equipment needs to be deployed and operated, as long as the remainder is properly maintained. If appropriate, testing of response equipment may be conducted while it is being deployed. Facilities without facility-owned response equipment must ensure that the oil spill removal organization that is identified in the response plan to provide this response equipment certifies that the deployment exercises have been met. Refer to the National Preparedness for Response Exercise Program (PREP) Guidelines (see Appendix E to this part, section 13, for availability), which satisfy Oil Pollution Act (OPA) response exercise requirements.
- 1. (5) Section 1.3.4 lists the facility response personnel, including those employed by the facility and those under contract to the facility for response activities, the amount of time needed for personnel to respond, their responsibility in the case of an emergency, and their level of response training. Three different forms are included in this section. The Emergency Response Personnel List shall be composed of all personnel employed by the facility whose duties involve responding to emergencies, including oil discharges, even when they are not physically present at the site. An example of this type of person would be the Building Engineer-in-Charge or Plant Fire Chief. The second form is a list of the Emergency Response Contractors (both primary and secondary) retained by the facility. Any changes in contractor status must be reflected in updates to the response plan. Evidence of contracts with response contractors shall be included in this section so that the availability of resources can be verified. The last form is the Facility Response Team List, which shall be composed of both emergency response personnel (referenced by job title/position) and emergency response contractors, included in one of the two lists described above, that will respond immediately upon discovery of an oil discharge or other emergency (i.e., the first people to respond). These are to be persons normally on the facility premises or primary response contractors. Examples of these personnel would be the Facility Hazardous Materials (HAZMAT) Spill Team 1, Facility Fire Engine Company 1, Production Supervisor, or Transfer Supervisor. Company personnel must be able to respond immediately and adequately if contractor support is not available.
- ¶ (6) Section 1.3.5 lists factors that must, as appropriate, be considered when preparing an evacuation plan.
- \P (7) Section 1.3.6 references the responsibilities of the qualified individual for the facility in the event of an emergency.
- ¶ (B) The information provided in the emergency response section will aid in the assessment of the facility's ability to respond to a worst case discharge and will identify additional assistance that may be needed. In addition, the facility owner or operator may want to produce a wallet-size card containing a checklist of the immediate response and notification steps to be taken in the event of an oil discharge.

1.3.1 Notification Date of Last Update:

Emergency Notification Phone List Whom To Notify

Reporter's Name: Date: Facility Name:	Owner Name: Facility	Identification Number:	Date and Time
of Each NRC Notification:	•		

Organization	Phone No.
1. National Response Center (NRC):	1-800-424-8802
2. Qualified Individual:	• • • • • • • • • • • • • • • • • • • •
Evening Phone:	
3. Company Response Team:	
Evening Phone:	
4. Federal On-Scene Coordinator (OSC) and/or Regional Response Center (RRC):	
Evening Phone(s):	
Pager Number(s):	
5. Local Response Team (Fire Dept./Cooperatives):	
6. Fire Marshall:	
Evening Phone:	
7. State Emergency Response Commission (SERC):	
Evening Phone:	
8. State Police:	
9. Local Emergency Planning Committee (LEPC):	• • • • • • • • • • • • • • • • • • • •
10. Local Water Supply System:	
Evening Phone:	
11. Weather Report:	
12. Local Television/Radio Station for Evacuation Notification:	
13. Hospitals:	
is. nospicais:	

Spill Response Notification Form

Reporter's Last Name: First: M.I.: Position:

Phone Numbers:

Day (
Evening (
Company: Organization Type: Address: City: State: Zip:
Were Materials Discharged? (Y/N) Confidential? (Y/N)
Meeting Federal Obligations to Report? (Y/N) Date Called:
Calling for Responsible Party? (Y/N) Time Called:
Incident Description Source and/or Cause of Incident: Date of Incident:
Time of Incident: AM/PM
Incident Address/Location:
Nearest City: State: County: Zip:
Distance from City: Units of Measure: Direction from City:
Section: Township: Range: Borough:
Container Type: Tank Oil Storage Capacity: Units of Measure:
Facility Oil Storage Capacity: Units of Measure:
Facility Latitude: Degrees Minutes Seconds
Facility Longitude: Degrees Minutes Seconds
Material
CHRIS Code Discharged quantity Unit of measure

Citation Publishing Dynamic Menu	Page 10 of 38
Response Action	
Actions Taken to Correct, Control or Mitigate Incident:	
Impact	
Number of Injuries: Number of Deaths:	
Were there Evacuations? (Y/N) Number Evacuated:	
Word more Evacuations: (1714) Intimocr Evacuated	
Was there any Damage? (Y/N)	
Damage in Dollars (approximate): Medium Affected: Description: More Information a	bout Medium:
Any information about the incident not recorded elsewhere in the report:	
Caller Notifications	
EPA? (Y/N) USCG? (Y/N) State? (Y/N)	
Other? (Y/N) Describe:	
1.3.2 Response Equipment List	
Date of Last Update:	
Facility Response Equipment List	
Skimmers/Pumps-Operational Status:Type, Model, and Year:	
TypeModelYear	

Capacity:gal./min. Daily Effective Recovery Rate:Storage Location(s):Date Fuel Last Changed: 2. Boom Operational Status:Type, Model, and Year: TypeModelYear Number: Size (length):ft. Containment Area:sq. ft. Storage Location: 3. Chemicals Stored (Dispersants listed on EPA's NCP Product Schedule) TypeAmountDate	Number:				
Operational Status:TypeModel, and Year: TypeModelYear Number: Size (length):ft. Containment Area:sq. ft. Storage Location: 3. Chemicals Stored (Dispersants listed on EPA's NCP Product Schedule)	Capacity: gal./min.				
Number: Size (length): ft. Containment Area: sq. ft. Storage Location: 3. Chemicals Stored (Dispersants listed on EPA's NCP Product Schedule)	Daily Effective Recovery Rate:Type, Model,	Storage Location, and Year:	(s):Date F	uel Last Changeo	l: 2. Boom-
Size (length): ft. Containment Area: sq. ft. Storage Location: 3. Chemicals Stored (Dispersants listed on EPA's NCP Product Schedule)	TypeModel	Year			
Containment Area: sq. ft. Storage Location: 3. Chemicals Stored (Dispersants listed on EPA's NCP Product Schedule)	Number:				
Storage Location: 3. Chemicals Stored (Dispersants listed on EPA's NCP Product Schedule)	Size (length): ft.				
3. Chemicals Stored (Dispersants listed on EPA's NCP Product Schedule) Type Amount purcha Were appropriate procedures used to receive approval for use of dispersants in accordance with the NCP (40 CFR 300.910) and the Area Contingency Plan (ACP), where applicable? (Y/N). Name and State of On-Scene Coordinator (OSC) authorizing use: Date Authorized: 4. Dispersant Dispensing Equipment-Operational Status: Response Type and year Capacity Storage time	Containment Area: sq. ft.				
3. Chemicals Stored (Dispersants listed on EPA's NCP Product Schedule) Type Amount purcha Were appropriate procedures used to receive approval for use of dispersants in accordance with the NCP (40 CFR 300.910) and the Area Contingency Plan (ACP), where applicable? (Y/N). Name and State of On-Scene Coordinator (OSC) authorizing use: Date Authorized: 4. Dispersant Dispensing Equipment-Operational Status: Response Type and year Capacity Storage time	Storage Location				
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Type Amount purcha Type Amount purcha Type Amount purcha Amount purcha Type and year Capacity Storage Type and year Type and yea	3. Chemicals Stored (Dispersants nate	d on Di Asivei 110	dact Schedule)		
Were appropriate procedures used to receive approval for use of dispersants in accordance with the NCP (40 CFR 300.910) and the Area Contingency Plan (ACP), where applicable? (Y/N). Name and State of On-Scene Coordinator (OSC) authorizing use: Date Authorized: 4. Dispersant Dispensing Equipment-Operational Status: Response Type and year Capacity Storage time					 Date
Were appropriate procedures used to receive approval for use of dispersants in accordance with the NCP (40 CFR 300.910) and the Area Contingency Plan (ACP), where applicable? (Y/N). Name and State of On-Scene Coordinator (OSC) authorizing use: Date Authorized: 4. Dispersant Dispensing Equipment-Operational Status: Response Type and year Capacity Storage time					purchas
Response Type and year Capacity Storage time					purchas
Response Type and year Capacity Storage time	Were appropriate procedures used to r NCP (40 CFR 300.910) and the Area (receive approval for u	use of dispersant	s in accordance v	purchas
location (minutes)	Were appropriate procedures used to r NCP (40 CFR 300.910) and the Area of Name and State of On-Scene Coordina Date Authorized:	eceive approval for u Contingency Plan (Adator (OSC) authorizin	ise of dispersant CP), where appl	s in accordance v	purchas
	Were appropriate procedures used to r NCP (40 CFR 300.910) and the Area (Name and State of On-Scene Coordinate Authorized: 4. Dispersant Dispensing Equipment-C	eceive approval for u Contingency Plan (A ator (OSC) authorizin	se of dispersant CP), where appling use:	s in accordance vicable?(Y/N	purchas
	Were appropriate procedures used to r NCP (40 CFR 300.910) and the Area 6 Name and State of On-Scene Coordina Date Authorized: 4. Dispersant Dispensing Equipment-6 Type and year	eceive approval for u Contingency Plan (A ator (OSC) authorizin	se of dispersant CP), where appling use:	s in accordance vicable?(Y/N	purchas

5. Sorbents-Operational Status: Capacity (gal.):Storage Lo	Type and Year Purcha ocation(s): 6. Hand Tools-O	sed:Amount:Absorption perational Status:
Type and year	Quantity	Storage location
7. Communication Equipment (numbers)-Operational Status: _		and channel and/or cellular phone
Type and year	Quantity	Storage location/ number
Fire Fighting and Personnel	Protective Equipment-Opera	
Type and year		Storage location
.==	nt, Boats and Motors)-Opera	
		Storage location
1.3.3Response Equipment	Testing/Deployment	
Date of Last Update:		
Response Equipment Testing an	nd Deployment Drill Log	
Last Inspection or Response Eq	uipment Test Date: Inspecti	on Frequency: Last Deployment Dr

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Date of Last Update:			
			rgency Response Pe Company Personn
Name	Phone		sponse time
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6. 			
7. 			
8.			
9.			·
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\1\ Phone number to be \	ised when person is	not on-site.	
	Ψm	ergency Response Contr	actors
		Date of Last Update:	
Contractor	Phone	Response time	Contrac
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2.			
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2. 3.			

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	-		
\1\ Include evidence of contracts/agreements and response equipment.	with response contracto	rs to ensu	re tl
	acility Response Team		
Team member	Response time (minutes	:)	P]
Qualified Individual:			,====:
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Note: If the facility uses contracted help in provide the contractors' names and review the response equipment.			
1.3.5 Evacuation Plans			
1.3.5.1Based on the analysis of the facility, as discus-	ssed elsewhere in the plan, a	facility-wide	;

evacuation plan shall be developed. In addition, plans to evacuate parts of the facility that are at a high risk of exposure in the event of a discharge or other release must be developed. Evacuation routes must be shown on a diagram of the facility (see section 1.9 of this appendix). When developing evacuation plans, consideration must be given to the following factors, as appropriate:

- 1 (1) Location of stored materials;
- 1- (2) Hazard imposed by discharged material;
- 1- (3) Discharge flow direction;
- ¶- (4) Prevailing wind direction and speed;
- ¶ (5) Water currents, tides, or wave conditions (if applicable);
- (6) Arrival route of emergency response personnel and response equipment;
- ¶ (7) Evacuation routes;
- ¶- (8) Alternative routes of evacuation;
- 1- (9) Transportation of injured personnel to nearest emergency medical facility;
- 1- (10) Location of alarm/notification systems;
- 1 (11) The need for a centralized check-in area for evacuation validation (roll call);
- 12) Selection of a mitigation command center; and
- ¶ (13) Location of shelter at the facility as an alternative to evacuation.
- 1.3.5.2 One resource that may be helpful to owners or operators in preparing this section of the response plan is The *Handbook of Chemical Hazard Analysis Procedures* by the Federal Emergency Management Agency (FEMA), Department of Transportation (DOT), and EPA. *The Handbook of Chemical Hazard Analysis Procedures* is available from: FEMA, Publication Office, 500 C. Street, S.W., Washington, DC 20472, (202) 646-3484.
- 1.3.5.3 As specified in §112.20(h)(1)(vi), the facility owner or operator must reference existing community evacuation plans, as appropriate.
- 1.3.6 Qualified Individual's Duties

The duties of the designated qualified individual are specified in §112.20(h)(3)(ix). The qualified individual's duties must be described and be consistent with the minimum requirements in §112.20(h) (3)(ix). In addition, the qualified individual must be identified with the Facility Information in section 1.2 of the response plan.

1.4 Hazard Evaluation

This section requires the facility owner or operator to examine the facility's operations closely and to predict where discharges could occur. Hazard evaluation is a widely used industry practice that allows facility owners or operators to develop a complete understanding of potential hazards and the response actions necessary to address these hazards. *The Handbook of Chemical Hazard Analysis Procedures*, prepared by the EPA, DOT, and the FEMA and the *Hazardous Materials Emergency Planning Guide* (NRT-1), prepared by the National Response Team are good references for conducting a hazard analysis. Hazard identification and evaluation will assist facility owners or operators in planning for potential discharges, thereby reducing the severity of discharge impacts that may occur in the future. The evaluation also may help the operator identify and correct potential sources of discharges. In addition, special hazards to workers and emergency response personnel's health and safety shall be evaluated, as well as the facility's oil spill history.

1.4.1 Hazard Identification

The Tank and Surface Impoundment (SI) forms, or their equivalent, that are part of this section must be completed according to the directions below. ("Surface Impoundment" means a facility or part of a facility which is a natural topographic depression, man-made excavation, or diked area formed primarily of earthen materials (although it may be lined with man-made materials), which is designed to hold an accumulation of liquid wastes or wastes containing free liquids, and which is not an injection well or a seepage facility.) Similar worksheets, or their equivalent, must be developed for any other type of storage containers.

- ¶ (1) List each tank at the facility with a separate and distinct identifier. Begin aboveground tank identifiers with an "A" and belowground tank identifiers with a "B", or submit multiple sheets with the aboveground tanks and belowground tanks on separate sheets.
- 1 (2) Use gallons for the maximum capacity of a tank; and use square feet for the area.
- (3) Using the appropriate identifiers and the following instructions, fill in the appropriate forms:
 - 1 (a) Tank or SI number-Using the aforementioned identifiers (A or B) or multiple reporting sheets, identify each tank or SI at the facility that stores oil or hazardous materials.
 - ¶ (b) Substance Stored-For each tank or SI identified, record the material that is stored therein. If the tank or SI is used to store more than one material, list all of the stored materials.
 - \P (c) Quantity Stored-For each material stored in each tank or SI, report the average volume of material stored on any given day.
 - 1 (d) Tank Type or Surface Area/Year-For each tank, report the type of tank (e.g., floating top), and the year the tank was originally installed. If the tank has been refabricated, the year that the latest refabrication was completed must be recorded in parentheses next to the year installed. For each SI, record the surface area of the impoundment and the year it went into service.

- ¶ (e) Maximum Capacity-Record the operational maximum capacity for each tank and SI. If the maximum capacity varies with the season, record the upper and lower limits.
- ¶ (f) Failure/Cause-Record the cause and date of any tank or SI failure which has resulted in a loss of tank or SI contents.
- (4) Using the numbers from the tank and SI forms, label a schematic drawing of the facility. This drawing shall be identical to any schematic drawings included in the SPCC Plan.
- (5) Using knowledge of the facility and its operations, describe the following in writing:
 - [¶]- (a) The loading and unloading of transportation vehicles that risk the discharge of oil or release of hazardous substances during transport processes. These operations may include loading and unloading of trucks, railroad cars, or vessels. Estimate the volume of material involved in transfer operations, if the exact volume cannot be determined.
 - ¶ (b) Day-to-day operations that may present a risk of discharging oil or releasing a hazardous substance. These activities include scheduled venting, piping repair or replacement, valve maintenance, transfer of tank contents from one tank to another, etc. (not including transportation-related activities). Estimate the volume of material involved in these operations, if the exact volume cannot be determined.
 - T- (c) The secondary containment volume associated with each tank and/or transfer point at the facility. The numbering scheme developed on the tables, or an equivalent system, must be used to identify each containment area. Capacities must be listed for each individual unit (tanks, slumps, drainage traps, and ponds), as well as the facility total.
 - ¶. (d) Normal daily throughput for the facility and any effect on potential discharge volumes that a negative or positive change in that throughput may cause.

		Hazard Identification ' Date of Last Update
Tank No.	Substance Stored (Oil and Hazardous Substance)	Quantity Stored (gallons)
		-
\1\ Tank = any container that sto		·

	Hazard	Identification Surface In Date of Last Update
SI No.	Substance Stored	Quantity Stored (gallons)
	·	
	·	
Attach as many sheets as necessar		·

1.4.2 Vulnerability Analysis

The vulnerability analysis shall address the potential effects (i.e., to human health, property, or the environment) of an oil discharge. Attachment C-III to Appendix C to this part provides a method that owners or operators shall use to determine appropriate distances from the facility to fish and wildlife and sensitive environments. Owners or operators can use a comparable formula that is considered acceptable by the RA. If a comparable formula is used, documentation of the reliability and analytical soundness of the formula must be attached to the response plan cover sheet. This analysis must be prepared for each facility and, as appropriate, must discuss the vulnerability of:

- ¶: (1) Water intakes (drinking, cooling, or other);
- ¶- (2) Schools;
- 1 (3) Medical facilities;
- ¶ (4) Residential areas;
- ¶ (5) Businesses;
- ¶ (6) Wetlands or other sensitive environments; 2

2Refer to the DOC/NOAA "Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments" (See appendix E to this part, section 13, for availability).

- 1. (7) Fish and wildlife;
- 1. (8) Lakes and streams;
- ¶ (9) Endangered flora and fauna;

- ¶ (10) Recreational areas;
- 1 (11) Transportation routes (air, land, and water);
- ¶- (12) Utilities; and
- 1. (13) Other areas of economic importance (e.g., beaches, marinas) including terrestrially sensitive environments, aquatic environments, and unique habitats.

1.4.3 Analysis of the Potential for an Oil Discharge

Each owner or operator shall analyze the probability of a discharge occurring at the facility. This analysis shall incorporate factors such as oil discharge history, horizontal range of a potential discharge, and vulnerability to natural disaster, and shall, as appropriate, incorporate other factors such as tank age. This analysis will provide information for developing discharge scenarios for a worst case discharge and small and medium discharges and aid in the development of techniques to reduce the size and frequency of discharges. The owner or operator may need to research the age of the tanks the oil discharge history at the facility.

1.4.4 ____Facility Reportable Oil Spill History

Briefly describe the facility's reportable oil spill 3 history for the entire life of the facility to the extent that such information is reasonably identifiable, including:

3As described in 40 CFR part 110, reportable oil spills are those that: (a) violate applicable water quality standards, or (b) cause a film or sheen upon or discoloration of the surface of the water or adjoining shorelines or cause a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines.

- 1 (1) Date of discharge(s);
- 1. (2) List of discharge causes;
- 1- (3) Material(s) discharged;
- 1- (4) Amount discharged in gallons;
- ¶- (5) Amount of discharge that reached navigable waters, if applicable;
- 1- (6) Effectiveness and capacity of secondary containment;
- ¶- (7) Clean-up actions taken;
- 1. (8) Steps taken to reduce possibility of recurrence;
- 1 (9) Total oil storage capacity of the tank(s) or impoundment(s) from which the

material discharged;

- ¶ (10) Enforcement actions;
- [¶]· (11) Effectiveness of monitoring equipment; and
- [¶]· (12) Description(s) of how each oil discharge was detected.

The information solicited in this section may be similar to requirements in 40 CFR 112.4(a). Any duplicate information required by §112.4(a) may be photocopied and inserted.

1.5____Discharge Scenarios

In this section, the owner or operator is required to provide a description of the facility's worst case discharge, as well as a small and medium discharge, as appropriate. A multi-level planning approach has been chosen because the response actions to a discharge (i.e., necessary response equipment, products, and personnel) are dependent on the magnitude of the discharge. Planning for lesser discharges is necessary because the nature of the response may be qualitatively different depending on the quantity of the discharge. The facility owner or operator shall discuss the potential direction of the discharge pathway.

- 1.5.1 ____Small and Medium Discharges
- 1.5.1.1 To address multi-level planning requirements, the owner or operator must consider types of facility-specific discharge scenarios that may contribute to a small or medium discharge. The scenarios shall account for all the operations that take place at the facility, including but not limited to:
 - ¶ (1) Loading and unloading of surface transportation;
 - 1 (2) Facility maintenance;
 - ¶ (3) Facility piping;
 - **1** (4) Pumping stations and sumps;
 - ¶ (5) Oil storage tanks;
 - 1. (6) Vehicle refueling; and
 - 1 (7) Age and condition of facility and components.
- 1.5.1.2 The scenarios shall also consider factors that affect the response efforts required by the facility. These include but are not limited to:
 - \P (1) Size of the discharge;
 - 1. (2) Proximity to downgradient wells, waterways, and drinking water intakes;

- ¶ (3) Proximity to fish and wildlife and sensitive environments;
- (4) Likelihood that the discharge will travel offsite (i.e., topography, drainage);
- ¶- (5) Location of the material discharged (i.e., on a concrete pad or directly on the soil);
- (6) Material discharged;
- [¶]· (7) Weather or aquatic conditions (i.e., river flow);
- (8) Available remediation equipment;
- ¶ (9) Probability of a chain reaction of failures; and
- 1- (10) Direction of discharge pathway.

1.5.2 Worst Case Discharge

- 1.5.2.1 In this section, the owner or operator must identify the worst case discharge volume at the facility. Worksheets for production and non-production facility owners or operators to use when calculating worst case discharge are presented in Appendix D to this part. When planning for the worst case discharge response, all of the aforementioned factors listed in the small and medium discharge section of the response plan shall be addressed.
- 1.5.2.2 For onshore storage facilities and production facilities, permanently manifolded oil storage tanks are defined as tanks that are designed, installed, and/or operated in such a manner that the multiple tanks function as one storage unit (i.e., multiple tank volumes are equalized). In this section of the response plan, owners or operators must provide evidence that oil storage tanks with common piping or piping systems are not operated as one unit. If such evidence is provided and is acceptable to the RA, the worst case discharge volume shall be based on the combined oil storage capacity of all manifold tanks or the oil storage capacity of the largest single oil storage tank within the secondary containment area, whichever is greater. For permanently manifolded oil storage capacity of all manifolded tanks or the oil storage capacity of the largest single tank within a secondary containment area, whichever is greater. For purposes of the worst case discharge calculation, permanently manifolded oil storage tanks that are separated by internal divisions for each tank are considered to be single tanks and individual manifolded tank volumes are not combined.

1.6____Discharge Detection Systems

In this section, the facility owner or operator shall provide a detailed description of the procedures and equipment used to detect discharges. A section on discharge detection by personnel and a discussion of automated discharge detection, if applicable, shall be included for both regular operations and after hours operations. In addition, the facility owner or operator shall discuss how the reliability of any automated system will be checked and how frequently the system will be inspected.

1.6.1____Discharge Detection by Personnel

In this section, facility owners or operators shall describe the procedures and personnel that will detect any discharge of oil or release of a hazardous substance. A thorough discussion of facility inspections must be included. In addition, a description of initial response actions shall be addressed. This section shall reference section 1.3.1 of the response plan for emergency response information.

1.6.2 Automated Discharge Detection

In this section, facility owners or operators must describe any automated discharge detection equipment that the facility has in place. This section shall include a discussion of overfill alarms, secondary containment sensors, etc. A discussion of the plans to verify an automated alarm and the actions to be taken once verified must also be included.

1.7___Plan Implementation

In this section, facility owners or operators must explain in detail how to implement the facility's emergency response plan by describing response actions to be carried out under the plan to ensure the safety of the facility and to mitigate or prevent discharges described in section 1.5 of the response plan. This section shall include the identification of response resources for small, medium, and worst case discharges; disposal plans; and containment and drainage planning. A list of those personnel who would be involved in the cleanup shall be identified. Procedures that the facility will use, where appropriate or necessary, to update their plan after an oil discharge event and the time frame to update the plan must be described.

1.7.1 ____Response Resources for Small, Medium, and Worst Case Discharages

- 1.7.1.1 Once the discharge scenarios have been identified in section 1.5 of the response plan, the facility owner or operator shall identify and describe implementation of the response actions. The facility owner or operator shall demonstrate accessibility to the proper response personnel and equipment to effectively respond to all of the identified discharge scenarios. The determination and demonstration of adequate response capability are presented in Appendix E to this part. In addition, steps to expedite the cleanup of oil discharges must be discussed. At a minimum, the following items must be addressed:
 - 1 (1) Emergency plans for spill response;
 - [¶] (2) Additional response training;
 - ¶- (3) Additional contracted help;
 - ¶ (4) Access to additional response equipment/experts; and
 - 1. (5) Ability to implement the plan including response training and practice drills.

1.7.1.2A recommended form detailing immediate actions follows.

Oil Spill Response_Immedia	ate Actions
1. Stop the product flow	Act quickly to secure pumps, close valves, etc.
2. Warn personnel	Enforce safety and security measures.
3. Shut off ignition sources	
4. Initiate containment	
5. Notify NRC6. Notify OSC7. Notify, as appropriate	
Source: FOSS, Oil Spill Response_Emergency 3, 1992.	Procedures, Revised December
se No.	
1.7.2Disposal Plans	
1.7.2.1 Facility owners or operators must describe reuse, decontaminate, or dispose of materials after a drequired to transport or dispose of recovered materials requirements must be addressed. Materials that must be appropriate, include:	ischarge has taken place. The appropriate permits according to local, State, and Federal
1- (1) Recovered product;	
[¶] (2) Contaminated soil;	
¶. (3) Contaminated equipment and shovels;	d materials, including drums, tank parts, valves,
1 (4) Personnel protective equipm	eent;
1 (5) Decontamination solutions;	
T- (6) Adsorbents; and	
¶ (7) Spent chemicals.	
1.7.2.2 These plans must be prepared in accordance and Recovery Act [RCRA]), State, and local regulation plans from the facility's SPCC Plan may be inserted with plans.	

Disposal

RCRA permit/

	Material	Location	
1.			
2.			
3.			
4.			
		 	

1.7.3 Containment and Drainage Planning

A proper plan to contain and control a discharge through drainage may limit the threat of harm to human health and the environment. This section shall describe how to contain and control a discharge through drainage, including:

- \P (1) The available volume of containment (use the information presented in section 1.4.1 of the response plan);
- (2) The route of drainage from oil storage and transfer areas;
- (3) The construction materials used in drainage troughs;
- 1- (4) The type and number of valves and separators used in the drainage system;
- ¶- (5) Sump pump capacities;
- ¶- (6) The containment capacity of weirs and booms that might be used and their location (see section 1.3.2 of this appendix); and
- 1- (7) Other cleanup materials.

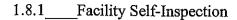
In addition, a facility owner or operator must meet the inspection and monitoring requirements for drainage contained in 40 CFR part 112, subparts A through C. A copy of the containment and drainage plans that are required in 40 CFR part 112, subparts A through C may be inserted in this section, including any diagrams in those plans.

Note:

The general permit for stormwater drainage may contain additional requirements.

1.8 ____Self-Inspection, Drills/Exercises, and Response Training

The owner or operator must develop programs for facility response training and for drills/exercises according to the requirements of 40 CFR 112.21. Logs must be kept for facility drills/exercises, personnel response training, and spill prevention meetings. Much of the recordkeeping information required by this section is also contained in the SPCC Plan required by 40 CFR 112.3. These logs may be included in the facility response plan or kept as an annex to the facility response plan.



Under 40 CFR 112.7(e), you must include the written procedures and records of inspections for each facility in the SPCC Plan. You must include the inspection records for each container, secondary containment, and item of response equipment at the facility. You must cross-reference the records of inspections of each container and secondary containment required by 40 CFR 112.7(e) in the facility response plan. The inspection record of response equipment is a new requirement in this plan. Facility self-inspection requires two-steps: (1) a checklist of things to inspect; and (2) a method of recording the actual inspection and its findings. You must note the date of each inspection. You must keep facility response plan records for five years. You must keep SPCC records for three years.

1.8.1.1. Tank Inspection

The tank inspection checklist presented below has been included as guidance during inspections and monitoring. Similar requirements exist in 40 CFR part 112, subparts A through C. Duplicate information from the SPCC Plan may be photocopied and inserted in this section. The inspection checklist consists of the following items:

Tank Inspection Checklist

- 1. Check tanks for leaks, specifically looking for:
- A. drip marks;
- B. discoloration of tanks;
- C. puddles containing spilled or leaked material;
- D. corrosion;
- E. cracks; and
- F. localized dead vegetation.
- 2. Check foundation for:
- A. cracks;
- B. discoloration;
- C. puddles containing spilled or leaked material;
- D. settling;
- E. gaps between tank and foundation; and
- F. damage caused by vegetation roots.

3. Check piping for:		
A. droplets of stored material;		ź
B. discoloration;		
C. corrosion;		
D. bowing of pipe between supports;		
E. evidence of stored material seepage from valves	or seals; and	
F. localized dead vegetation.		
Tanl	k/Surface Impoundment Inspect	ion Log
Inspector	Tank or SI#	Date
		· · ·
	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ 	
1.8.1.2 Response Equipment Inspection		
Using the Emergency Response Equipment List pr describe each type of response equipment, checking		onse plan,
Response Equipment Checklist		
1. Inventory (item and quantity);		****
2. Storage location;		

- 3. Accessibility (time to access and respond);
- 4. Operational status/condition;
- 5. Actual use/testing (last test date and frequency of testing); and
- 6. Shelf life (present age, expected replacement date).

Please note any discrepancies between this list and the available response equipment.

	Response Equipment Inspection Log [Use section 1.3.2 of the response plan as a checklist
Inspector	Date
. 100mm 10mm 1	
• •	

1.8.1.3 Secondary Containment Inspection

Inspect the secondary containment (as described in sections 1.4.1 and 1.7.2 of the response plan), checking the following:

Secondary Containment Checklist

- 1. Dike or berm system.
- A. Level of precipitation in dike/available capacity;
- B. Operational status of drainage valves;
- C. Dike or berm permeability;

- D. Debris;
- E. Erosion;
- F. Permeability of the earthen floor of diked area; and
- G. Location/status of pipes, inlets, drainage beneath tanks, etc.
- 2. Secondary containment
- A. Cracks;
- B. Discoloration:
- C. Presence of spilled or leaked material (standing liquid);
- D. Corrosion; and
- E. Valve conditions.
- 3. Retention and drainage ponds
- A. Erosion;
- B. Available capacity;
- C. Presence of spilled or leaked material;
- D. Debris; and
- E. Stressed vegetation.

The tank inspection checklist presented below has been included as guidance during inspections and monitoring. Similar requirements exist in 40 CFR part 112, subparts A through C. Similar requirements exist in 40 CFR 112.7(e). Duplicate information from the SPCC Plan may be photocopied and inserted in this section.

1.8.2____Facility Drills/Exercises

¶ (A) CWA section 311(j)(5), as amended by OPA, requires the response plan to contain a description of facility drills/exercises. According to 40 CFR 112.21(c), the facility owner or operator shall develop a program of facility response drills/exercises, including evaluation procedures. Following the PREP guidelines (see Appendix E to this part, section 13, for availability) would satisfy a facility's requirements for drills/exercises under this part. Alternately, under §112.21(c), a facility owner or operator may develop a program that is not based on the PREP guidelines. Such a program is subject to approval by the Regional Administrator based on the description of the program provided in the response plan.

- ¶ (B) The PREP Guidelines specify that the facility conduct internal and external drills/exercises. The internal exercises include: qualified individual notification drills, spill management team tabletop exercises, equipment deployment exercises, and unannounced exercises. External exercises include Area Exercises. Credit for an Area or Facility-specific Exercise will be given to the facility for an actual response to a discharge in the area if the plan was utilized for response to the discharge and the objectives of the Exercise were met and were properly evaluated, documented, and self-certified.
- To (C) Section 112.20(h)(8)(ii) requires the facility owner or operator to provide a description of the drill/exercise program to be carried out under the response plan. Qualified Individual Notification Drill and Spill Management Team Tabletop Drill logs shall be provided in sections 1.8.2.1 and 1.8.2.2, respectively. These logs may be included in the facility response plan or kept as an annex to the facility response plan. See section 1.3.3 of this appendix for Equipment Deployment Drill Logs.

1.8.2.1 Qualified Individual Notification Drill Logs

Qualified Individual Notification Drill Log

Date: Company: Qualified Individual(s): Emergency Scenario: Evaluation: Changes to be Implemented: Time Table for Implementation: 1.8.2.2 Spill Management Team Tabletop Exercise Logs

Spill Management Team Tabletop Exercise Log

1.8.3.1 Personnel Response Training Logs

Date: Company: Qualified Individual(s): Emergency Scenario: Evaluation: Changes to be Implemented: Time Table for Implementation: 1.8.3 Response Training

Section 112.21(a) requires facility owners or operators to develop programs for facility response training. Facility owners or operators are required by §112.20(h)(8)(iii) to provide a description of the response training program to be carried out under the response plan. A facility's training program can be based on the USCG's Training Elements for Oil Spill Response, to the extent applicable to facility operations, or another response training program acceptable to the RA. The training elements are available from the USCG Office of Response (G-MOR) at (202) 267-0518 or fax (202) 267-4085. Personnel response training logs and discharge prevention meeting logs shall be included in sections 1.8.3.1 and 1.8.3.2 of the response plan respectively. These logs may be included in the facility response plan or kept as an annex to the facility response plan.

Personnel Response Training Log Response training/ Prevention training/ Name date and number of date and number of hours hours

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¶ (I) structures where hazardous materials are stored or handled, including materials

[¶] (H) secondary containment systems (location and capacity);

stored and capacity of storage;

- ¶ (J) location of communication and emergency response equipment;
- (K) location of electrical equipment which contains oil; and
- ¶ · (L) for complexes only, the interface(s) (i.e., valve or component) between the portion of the facility regulated by EPA and the portion(s) regulated by other Agencies. In most cases, this interface is defined as the last valve inside secondary containment before piping leaves the secondary containment area to connect to the transportation-related portion of the facility (i.e., the structure used or intended to be used to transfer oil to or from a vessel or pipeline). In the absence of secondary containment, this interface is the valve manifold adjacent to the tank nearest the transfer structure as described above. The interface may be defined differently at a specific facility if agreed to by the RA and the appropriate Federal official.
- 1- (2) The Site Drainage Plan Diagram shall, as appropriate, include:
 - 1- (A) major sanitary and storm sewers, manholes, and drains;
 - (B) weirs and shut-off valves;
 - ¶ (C) surface water receiving streams;
 - ¶ (D) fire fighting water sources;
 - ¶- (E) other utilities;
 - (F) response personnel ingress and egress;
 - 1- (G) response equipment transportation routes; and
 - ¶ (H) direction of discharge flow from discharge points.
- ¶- (3) The Site Evacuation Plan Diagram shall, as appropriate, include:
 - ¶ (A) site plan diagram with evacuation route(s); and
 - ¶ (B) location of evacuation regrouping areas.

1.10___Security

According to 40 CFR 112.7(g) facilities are required to maintain a certain level of security, as appropriate. In this section, a description of the facility security shall be provided and include, as appropriate:

 \P - (1) emergency cut-off locations (automatic or manual valves);

- ¶- (2) enclosures (e.g., fencing, etc.);
- T- (3) guards and their duties, day and night;
- ¶- (4) lighting;
- ¶- (5) valve and pump locks; and
- ¶- (6) pipeline connection caps.

The SPCC Plan contains similar information. Duplicate information may be photocopied and inserted in this section.

2.0 Response Plan Cover Sheet

A three-page form has been developed to be completed and submitted to the RA by owners or operators who are required to prepare and submit a facility-specific response plan. The cover sheet (Attachment F-1) must accompany the response plan to provide the Agency with basic information concerning the facility. This section will describe the Response Plan Cover Sheet and provide instructions for its completion.

2.1 General Information

Owner/Operator of Facility: Enter the name of the owner of the facility (if the owner is the operator). Enter the operator of the facility if otherwise. If the owner/operator of the facility is a corporation, enter the name of the facility's principal corporate executive. Enter as much of the name as will fit in each section.

- \P (1) Facility Name: Enter the proper name of the facility.
- 1 (2) Facility Address: Enter the street address, city, State, and zip code.
- ¶ (3) Facility Phone Number: Enter the phone number of the facility.
- ¶ (4) Latitude and Longitude: Enter the facility latitude and longitude in degrees, minutes, and seconds.
- ¶ (5) Dun and Bradstreet Number: Enter the facility's Dun and Bradstreet number if available (this information may be obtained from public library resources).
- T (6) North American Industrial Classification System (NAICS) Code: Enter the facility's NAICS code as determined by the Office of Management and Budget (this information may be obtained from public library resources.)
- ¶- (7) Largest Oil Storage Tank Capacity: Enter the capacity in GALLONS of the largest aboveground oil storage tank at the facility.

- 9
- ¶. (8) Maximum Oil Storage Capacity: Enter the total maximum capacity in GALLONS of all aboveground oil storage tanks at the facility.
- \P (9) Number of Oil Storage Tanks: Enter the number of all aboveground oil storage tanks at the facility.
- 1- (10) Worst Case Discharge Amount: Using information from the worksheets in Appendix D, enter the amount of the worst case discharge in GALLONS.
- ¶ (11) Facility Distance to Navigable Waters: Mark the appropriate line for the nearest distance between an opportunity for discharge (i.e., oil storage tank, piping, or flowline) and a navigable water.
- 2.2 Applicability of Substantial Harm Criteria

Using the flowchart provided in Attachment C-I to Appendix C to this part, mark the appropriate answer to each question. Explanations of referenced terms can be found in Appendix C to this part. If a comparable formula to the ones described in Attachment C-III to Appendix C to this part is used to calculate the planning distance, documentation of the reliability and analytical soundness of the formula must be attached to the response plan cover sheet.

2.3 Certification

Complete this block after all other questions have been answered.

3.0 Acronyms

ACP: Area Contingency Plan

ASTM: American Society of Testing Materials

bbls: Barrels

bpd: Barrels per Day

bph: Barrels per Hour

CHRIS: Chemical Hazards Response Information System

CWA: Clean Water Act

DOI: Department of Interior

DOC: Department of Commerce

DOT: Department of Transportation

EPA: Environmental Protection Agency

FEMA: Federal Emergency Management Agency

FR: Federal Register

gal: Gallons

gpm: Gallons per Minute

HAZMAT: Hazardous Materials

LEPC: Local Emergency Planning Committee

MMS: Minerals Management Service (part of DOI)

NAICS: North American Industrial Classification System

NCP: National Oil and Hazardous Substances Pollution Contingency Plan

NOAA: National Oceanic and Atmospheric Administration (part of DOC)

NRC: National Response Center

NRT: National Response Team

OPA: Oil Pollution Act of 1990

OSC: On-Scene Coordinator

PREP: National Preparedness for Response Exercise Program

RA: Regional Administrator

RCRA: Resource Conservation and Recovery Act

RRC: Regional Response Centers

RRT: Regional Response Team

RSPA: Research and Special Programs Administration

SARA: Superfund Amendments and Reauthorization Act

SERC: State Emergency Response Commission

SDWA: Safe Drinking Water Act of 1986

SI: Surface Impoundment

SPCC: Spill Prevention, Control, and Countermeasures

USCG: United States Coast Guard

4.0 References

CONCAWE. 1982. Methodologies for Hazard Analysis and Risk Assessment in the Petroleum Refining and Storage Industry. Prepared by CONCAWE's Risk Assessment Ad-hoc Group.

U.S. Department of Housing and Urban Development. 1987. Siting of HUD-Assisted Projects Near Hazardous Facilities: Acceptable Separation Distances from Explosive and Flammable Hazards.

Prepared by the Office of Environment and Energy, Environmental Planning Division, Department of Housing and Urban Development. Washington, DC.

U.S. DOT, FEMA and U.S. EPA. Handbook of Chemical Hazard Analysis Procedures.

U.S. DOT, FEMA and U.S. EPA. Technical Guidance for Hazards Analysis: Emergency Planning for Extremely Hazardous Substances.

The National Response Team. 1987. Hazardous Materials Emergency Planning Guide. Washington, DC.

The National Response Team. 1990. Oil Spill Contingency Planning, National Status: A Report to the President. Washington, DC. U.S. Government Printing Office.

Offshore Inspection and Enforcement Division. 1988. Minerals Management Service, Offshore Inspection Program: National Potential Incident of Noncompliance (PINC) List. Reston, VA.

Attachments to Appendix F

Attachment F-1-Response Plan Cover Sheet

This cover sheet will provide EPA with basic information concerning the facility. It must accompany a submitted facility response plan. Explanations and detailed instructions can be found in Appendix F. Please type or write legibly in blue or black ink. Public reporting burden for the collection of this information is estimated to vary from 1 hour to 270 hours per response in the first year, with an average of 5 hours per response. This estimate includes time for reviewing instructions, searching existing data sources, gathering the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate of this information, including suggestions for reducing this burden to: Chief, Information Policy Branch, Mail Code: PM-2822, U.S. Environmental Protection Agency, Ariel Rios Building, 1200 Pennsylvania Avenue, NW., Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington D.C. 20503.

General Information

Owner/Operator of Facility:

Facility Name:

Facility Address (street address or route):

City, State, and U.S. Zip Code:

Facility Phone No.:

Latitude (Degrees: North):

degrees, minutes, seconds

Dun & Bradstreet Number: 1

1These numbers may be obtained from public library resources.

Largest Aboveground Oil Storage Tank Capacity (Gallons):

Number of Aboveground Oil Storage Tanks:

Longitude (Degrees: West):

degrees, minutes, seconds North American Industrial Classification System (NAICS) Code: 1 Maximum Oil Storage Capacity (Gallons): Worst Case Oil Discharge Amount (Gallons): Facility Distance to Navigable Water. Mark the appropriate line.

0- 1/4 mile __ 1/4- 1/2 mile __ 1/2-1 mile __ >1 mile __

Applicability of Substantial Harm Criteria

Does the facility transfer oil over-water 2 to or from vessels and does the facility have a total oil storage capacity greater than or equal to 42,000 gallons?

2Explanations of the above-referenced terms can be found in Appendix C to this part. If a comparable formula to the ones contained in Attachment C-III is used to establish the appropriate distance to fish and wildlife and sensitive environments or public drinking water intakes, documentation of the reliability and analytical soundness of the formula must be attached to this form.

Yes No

Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and, within any storage area, does the facility lack secondary containment 2 that is sufficiently large to contain the capacity of the largest aboveground oil storage tank plus sufficient freeboard to allow for precipitation?

Yes No

Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance 2 (as calculated using the appropriate formula in Appendix C or a comparable formula) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments? 3

3For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III to DOC/NOAA's "Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments" (see Appendix E to this part, section 13, for availability) and the applicable ACP.

Yes No Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance 2 (as calculated using the appropriate formula in Appendix C or a comparable formula) such that a discharge from the facility would shut down a public drinking water intake? 2 Yes No

Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and has the facility experienced a reportable oil spill 2 in an amount greater than or equal to 10,000 gallons within the last 5 years?

Yes No

Certification

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining information, I believe that the submitted information is true, accurate, and complete.

(Signature)	: Name (Please type or print): (Title)
	: Date:
	49006, Sept. 26, 1994, as amended at 65 FR 40816, June 30, 2000; 34561, June 29, 2001; 67 FR 47152, July 17, 2002]

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APPENDIX B

DEPARTMENT OF DEFENSE MUTUAL FIREFIGHTING ASSISTANCE AGREEMENT

Jan 22 04 08:42a

JAN-22-2004 THU 08:40 AM FIRE COMPLEX

FAX NO. 57862771

P. 02

DEPARTMENT OF DEFENSE MUTUAL FIREFIGHTING ASSISTANCE AGREEMENT

THIS AGREEMENT, made and entered into this day of day of least lea

WITNESSETH:

WHEREAS, each of the parties hereto maintains equipment and personnel for the suppression of fires within its own jurisdiction and areas, and

WHEREAS, the parties hereto desire to augment the fire protection available in their various establishments, districts, agencies and municipalities in the event of large fires or conflagrations, and

WHEREAS, it is the policy of the Department of the Army / Fort Carson and of the municipalities or other districts and of their governing bodies to conclude such agreements wherever practical, and

WHEREAS, mutual sid is defined as two-way assistance by fire departments of two or more jurisdictions which is freely given under preatranged plans or contracts on the basis that each will aid the other in time of emergency, if they are able to provide the resources at that time, and also provides for joint or cooperative response to alarms near mutual boundaries.

WHEREAS, automatic response is defined as reciprocal mutual aid responses between fire departments which is prearranged and is included in the participating departments' operating procedures to provide immediate, automatic response between said departments whereby the closest available resources will respond to an incident provided that the responding party not having primary responsibility for the area of the emergency has the resources and capability to respond. The system provides quicker response to incidents and expands familiar and available resources in an emergency.

WHEREAS, it is mutually deemed sound, desirable, practicable, and beneficial for the parties of this agreement to render assistance to one another in accordance with these terms:

THEREFORE BE IT AGREED THAT:

1. The City and the Post agree to automatically respond to provide aid and assistance in the event of a fire or other emergency that endangers life and/or property, unless circumstances or resources do not allow for such response and the responding party decides response is not possible.

ijţ;

JAN-22-2004 THU 08:40 AM FIRE COMPLEX

FAX NO. 57862771

P. 03

- 2. Whenever it is deemed advisable by the senior officer of a fire department belonging to a party to this agreement, or by the senior officer of any such fire department actually present at any fire, to request firefighting assistance under the terms of this agreement, he/she is authorized to do so. The rendering of assistance under the terms of this agreement shall not be mandatory, but the party receiving the request for assistance should immediately inform the requesting department if, for any reason, assistance cannot be rendered.
- a. Each party to this agreement waives all claims against the other party or parties for compensation for any loss, damage, personal injury, or death occurring in consequence of the performance of this agreement.
- b. All services performed under the agreement should be rendered without reimbursement of either party or parties.
- c. Neither automatic response nor mutual aid shall be interpreted to relieve the party which has primary responsibility for the geographic area of an emergency, from the responsibility. Response under any of the provisions of this agreement is subject to availability of resources and creates no legal obligation to respond.
- 4. The chief fire officers and personnel of the fire departments of both parties to this agreement are invited and encouraged, on a reciprocal basis, to frequently visit each other's activities for guided familiarization tours consistent with local security requirements and, as feasible, to jointly conduct pre-fire planning inspections and drills.
- 5. The technical heads of the fire departments of both parties to this agreement are authorized and directed to meet and draft any detailed plans and procedures of operation necessary to effectively implement this agreement. Such plans and procedures of operations shall become effective upon ratification by the signatory parties.
- 6. This agreement shall become effective upon the date bereof and shall remain in full force and effect until canceled by mutual agreement of the parties hereto or by written notice by one party to the other party, giving thirty (30) days notice of said cancellation.
- 7. Governing Law: This Agreement is subject to and shall be interpreted under Federal Law and of the City of Colorado Springs, and the Charter, City Code, Ordinances, Rules and Regulations of the City of Colorado Springs, Colorado, a Colorado Home Rule City. Court Jurisdiction shall exclusively be in the District Court for El Paso County and the United States District Court, District of Colorado.
- 8. Relationship of Parties: The parties hereto enter into this Agreement as separate and independent governmental entities and each shall maintain such status throughout the term of this agreement.
- Appropriation of Funds: The performance of the parties under the Agreement is
 expressly subject to the appropriation and availability of funds for that purpose.

Jan 22 04 08:43a

p.4

JAN-22-2004 THU 08:40 AM FIRE COMPLEX

FAX NO. 57862771

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10. Severability: If any provision of this agreement, or the application of such provision to any person, entity or circumstance, shall be held invalid, the remainder of this Agreement, or the application of such provision to person, entities or circumstances other than those which it is held invalid, shall not be effected thereby.

IN WITNESS WHEREOF, the parties hereto have executed this agreement on the day and year first above written.

FOR THE CITY OF COLORADO SPRINGS:

Manuel Nayarro this 12th day of Material 1996

Fire Chief, Colorado Springs Fire Department

FOR THE SECRETARY OF THE ARMY:

this 10H day of Alexander 1996

LAWERENCE E. DAVIS

LOOL, FA

Garrison Commander

APPROVED AS TO FORM

SENIOR CONTROL ATTORNEY

OFFY OF COMMADD SPRINGS

LECALLY SUFFICIENT DATE TO THE SIGNATURE ADVISOR

APPENDIX C PLANNING DISTANCE CALCULATIONS



By <u>CGN</u> Date <u>OG. 11. 01</u> Subject <u>Planning Distance Calculation</u> Sheet No. <u>of</u> <u>S</u>

Chkd. By Date <u>G/13/61</u> Fort Carson FIP Proj. No. <u>820943</u>

25 in. X. 25 in.

Objective: Calculate the planning arrivace for For Carson
Facilly Response Plan

Fountain Creek is the only personnel stream on or adjacent to Fart Corson.

Harefore - For which is a planning recome a direct spill in to Fountain Creek

Planning Distance is calculated using equation found in 40CFR 112 Appendix C

d = vtc

d- distance downstreen from spill

V - velocity of stream - using Chezy - Manning's Egration

to time interval (hours)

C- Conversion Lector 0.68 sec-miletine-fit



By Con Date 6-11-01 Subject Planning Piskance Cake. Sheet No. 2 of 3

Chkd. By Left Date 6/13/01

Proj. No. 820 943

Chezy . Manning Equation

V=(1.5/n)(12/3)(5/2)

n - manninge roughness roefficient r - hydraulic ratios s - Any slope of the river

n- from Table 1 (Attendard) = 0.1 - Slow members, River-per

Rese Personnel

For Tome Personnel by multiplying mid-channel depth by 0.667

Per Tome Presonnel Aug. mid channel depth is 41 food

Use 1 foot :. (= (0.667)(1) = 0.667)

S- 100 m drop is 10.5 miles - From Fort Corson

military Institute map

(100×3.26) = 0.0059

V7775 (3:1:on

3-DMA

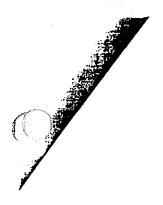
v 1/sec = (1.5) (0.6673) (6.00592) = 0.88 H/sec



Substantial Harm Planning time = 27 hours - From Table 3 40 CFR 112 App. C

· Planning distance = vtc = (0.88 3/sec)(27 hr)(0.68 sec-rice)

d= 16.2 m.les



Pt. 112, App. C

TABLE 1.-MANNING'S ROUGHNESS COEFFICIENT FOR NATURAL STREAMS

[Note: Coefficients are presented for high flow rates at or near flood stage.]

Stream description	Rough- ness co- efficient (n)
Minor Streams (Top Width <100 ft.)	
Straight	0.03
Winding	0.04
	0.04
No trees or brush	0.06
Trees and/or brush	-0.10
Major Streams (Top Width >100 ft.) Regular section:	<u>(0.10)</u>
(No boulders/brush)	0.035
(Brush)	0.05

TABLE 2.—SOURCES OF R AND S FOR THE CHEZY-MANNING EQUATION

All of the charts and related publications for navigational waters may be ordered from: Distribution Branch

(N/CG33) National Ocean Service

Riverdale, Maryland 20737-1199 Phone: (301) 436-6990

There will be a charge for materials ordered and a VISA or Mastercard will be accepted.

The mid-channel depth to be used in the calculation of the hydraulic radius (r) can be obtained directly from the following sources:

Charts of Canadian Coastal and Great Lakes Waters:

Canadian Hydrographic Service

Department of Fisheries and Oceans Institute

P.O. Box 8080 1675 Russell Road

Ottawa, Ontario KIG 3H6

Canada

Phone: (613) 998-4931

Charts and Maps of Lower Mississippi River

(Gulf of Mexico to Ohio River and St. Francis, White, Big Sunflower, Atchafalaya, and other rivers):

U.S. Army Corps of Engineers

Vicksburg District

P.O. Box 60

Vicksburg, Mississippi 39180

Phone: (601) 634-5000

Charts of Upper Mississippi River and Illinois Waterway to Lake Michigan:

U.S. Army Corps of Engineers

TABLE 2,-Sources of R AND S FOR THE CHEZY-MANNING EQUATION—Continued Rock Island District P.O. Box 2004

Rock Island, Illinois 61204 Phone: (309) 794-5552

Charts of Missouri River:

U.S. Army Corps of Engineers Omana District

6014 U.S. Post Office and Courthouse

Omaha, Nebraska 68102 Phone: (402) 221-3900

Charts of Ohio River: U.S. Army Corps of Engineers

Ohio River Division

P.O. Box 1159

Cincinnati, Ohio 45201

Phone: (513) 684-3002

Charts of Tennessee Valley Authority Reservoirs, Tennessee River and Tribu-

Tennessee Valley Authority Maps and Engineering Section 416 Union Avenue Knoxville, Tennessee 37902

Phone: (615) 632-2921

Charts of Black Warrior River, Alabama River, Tombigbee River, Apalachicola River and Pearl River:

U.S. Army Corps of Engineers Mobile District

P.O. Box 2288

Mobile, Alabama 36628-0001 Phone: (205) 690-2511

The average slope of the river (s) may be obtained from topographic maps:

U.S. Geological Survey

Map Distribution Federal Center

Bldg. 41 Box 25286

Denver, Colorado 80225

Additional information can be obtained from the following sources:

1. The State's Department of Natural Resources (DNR) or the State's Aids to Navigation office;

2. A knowledgeable local marina operator:

3. A knowledgeable local water authority (e.g., State water commission)

2.3 The average slope of the river (s) can be determined from the topographic maps using the following

(1) Locate the facility on the map.
(2) Find the Normal Pool Elevation at the point of discharge from the facility into the water (A).

- (3) Find the Normal Pool Elevation of the public drinking water intake or fish and wildlife and sensitive environment located downstream (B) (Note: The owner or operator should use a minimum of 20 miles downstream as a cutoff to obtain the average slope if the location of a specific public drinking water intake or fish and wildlife and sensitive environment is unknown).
- (4) If the Normal Pool Elevation is not available, the elevation contours can be used to find the slope. Determine elevation of the water at the point of discharge from the facility (A). Determine the elevation of the water at the appropriate distance downstream (B). The formula presented below can be used to calculate the slope.
- (5) Determine the distance (in miles) between the facility and the public drinking water intake or fish and wildlife and sensitive environments (C).
- (6) Use the following formula to find the slope, which will be a unitless value: Average Slope=[(A ·B) (ft)/C (miles)] x [1 mile/5280 feet]
- 2.4 If it is not feasible to determine the slope and mid-channel depth by the Chezy-Manning equation, then the river velocity can be approximated on- site. A specific length, such as 100 feet, can be marked off along the shoreline. A float can be dropped into the stream above the mark, and the time required for the float to travel the distance can be used to determine the velocity in feet per second. However, this method will not yield an average velocity for the length of the stream, but a velocity only for the specific location of measurement. In addition, the flow rate will vary depending on weather conditions such as wind and rainfall. It is recommended that facility owners or operators repeat the measurement under a variety of conditions to obtain the most accurate estimate of the surface water velocity under adverse weather conditions.
- 2.5 The planning distance calculations for moving and still navigable waters are based on worst case discharges of persistent oils. Persistent oils are of concern because they can remain in the water for significant periods of time and can potentially exist in large quantities downstream. Owners or operators of facilities that store persistent as well as non-persistent oils may use a comparable formula. The volume of oil discharged is not included as part of the planning distance calculation for moving navigable waters. Facilities that will meet this substantial harm criterion are those with facility capacities greater than or equal to 1 million gallons. It is assumed that these facilities are capable of having an oil discharge of sufficient quantity to cause injury to fish and wildlife and sensitive environments or shut down a public drinking water intake. While owners or operators of transfer facilities that store greater than or equal to 42,000 gallons are not required to use a planning distance formula for purposes of the substantial harm criteria, they should use a planning distance calculation in the development of facility-

TABLE 3 .- SPECIFIED TIME INTERVALS

Operating areas	Substantial harm planning time (hrs)				
Higher volume	12 h	hour ours.	amval+3	hour	deployment=15 deployment=27
Great Lakes	24 h	hour ours.	amval+3	hour	deployment=27

TABLE 3 .- SPECIFIED TIME INTERVALS-Continued

Operating areas	Subst	antial harm	planni	ng time (hrs)
All other rivers and canals, inland, and nearshore areas.	24 hour hours.	amval+3	hour	deployment=27

- 2.6 Example of the Planning Distance Calculation for Oil Transport on Moving Navigable Waters. The following example provides a sample calculation using the planning distance formula for a facility discharging oil into the Monographela River:
- (1) Solve for v by evaluating n, r, and s for the Chezy-Manning equation:

Find the roughness coefficient, n, on Table 1 of this attachment for a regular section of a major stream with a top width greater than 100 feet. The top width of the river can be found from the topographic map.

n=0.035.

Find slope, s, where A=727 feet, B=710 feet, and C=25 miles.

Solving:

s=[(727 ft · 1710 ft)/25 miles] x [1 mile/5280 feet]=1.3×10·4

The average mid-channel depth is found by averaging the mid-channel depth for each mile along the length of the river between the facility and the public drinking water intake or the fish or wildlife or sensitive environment (or 20 miles downstream if applicable). This value is multiplied by 0.667 to obtain the hydraulic radius. The mid-channel depth is found by obtaining values for r and s from the sources shown in Table 2 for the Monongahela

Solving: r=0.667×20 feet=13.33 feet Solve for v using: v=1.5/n×s^{2/3}×s^{1/2}: v=[1.5/0.035]×(13.33)2/3×(1.3×10-4)1/2

v=2.73 feet/second (2) Find t from Table 3 of this attachment. The Monongahela River's resource response time is 27 hours.

(3) Solve for planning distance, d:

d=vxtxc

d=(2.73 (0 sec)×(27 hours)×(0.68 sec+mile/hr+ff)

d≃50 miles

Therefore, 50 miles downstream is the appropriate planning distance for this facility.

3.0 Oil Transport on Still Water

- 3.1 For bodies of water including lakes or ponds that do not have a measurable velocity, the spreading of the oil over the surface must be considered. Owners or operators of facilities located next to still water bodies may use a comparable means of calculating the planning distance. If a comparable formula is used, documentation of the reliability and analytical soundness of the comparable calculation must be attached to the response plan cover
- 3.2 Example of the Planning Distance Calculation for Oil Transport on Still Water. To assist those facilities which could potentially discharge into a still body of

Pt. 112, App. D

Because the USCG also requires response plans from transportation-related facilities to address a worst case discharge of oil, a separate calculation for the worst case discharge planning volume for USCG-related facilities is included in the USCG IFR (see Appendix E to this part, section 10, for availability). All complexes that are jointly regulated by EPA and the USCG must compare both calculations for worst case discharge planning volume derived by using the EPA and USCG methodologies and plan for whichever volume is greater.

PART A: WORST CASE DISCHARGE PLANNING VOLUME CALCULATION FOR ONSHORE STOR-AGE FACILITIES!

Part A of this worksheet is to be completed by the owner or operator of an SPCC-regulated facility (excluding oil production facilities) if the facility meets the criteria as presented in Appendix C to this part, or if it is determined by the RA that the facility could cause substantial harm to the environment. If you are the owner or operator of a production facility, please proceed to Part B of this worksheet.

A.1 SINGLE-TANK FACILITIES

For facilities containing only one aboveground oil storage tank, the worst case discharge planning volume equals the capacity of the oil storage tank. If adequate secondary containment (sufficiently large to contain the capacity of the aboveground oil storage tank plus sufficient freeboard to allow for precipitation) exists for the oil storage tank, multiply the capacity of the tank by 0.8

storage tank, multiply the capacity of the tank by 0.8.

(1) FINAL WORST CASE VOLUME: GAL

(2) Do not proceed further.

A.2 SECONDARY CONTAINMENT—MULTIPLE-TANK FACILITIES

Are all aboveground oil storage tanks or groups of aboveground oil storage tanks at the facility without adequate secondary containment? 2

______(Y/N)

A.2.1 If the answer is yes, the final worst case discharge planning volume equals the total aboveground oil storage capacity at the facility.

A.2.2 If the answer is no, calculate the total aboveground oil storage capacity of tanks without adequate secondary containment. If all aboveground oil storage tanks or groups of aboveground oil storage tanks at the facility have adequate secondary containment, ENTER "0" (zero).

O GAL

A.2.3 Calculate the capacity of the largest single aboveground oil storage tank within an adequate secondary containment area or the combined capacity of a group of aboveground oil storage tanks permanently manifolded together, whichever is greater, PLUS THE VOLUME FROM QUESTION A.2.2.

40,000

1"Storage facilities" represent all facilities subject to this part, excluding oil production facilities.

²Secondary containment is defined in 40 CFR 112.7(e)(2). Acceptable methods and structures for containment are also given in 40 CFR 112.7(c)(1).

FINAL WORST CASE VOLUME: 4 40,000 GAL

PART B: WORST CASE DISCHARGE PLANNING VOLUME CALCULATION FOR ONSHORE PRODUCTION FACILITIES

Part B of this worksheet is to be completed by the owner or operator of an SPCC-regulated oil production facility if the facility meets the criteria presented in Appendix C to this part, or if it is determined by the RA that the facility could cause substantial harm. A production facility consists of all wells (producing and exploratory) and related equipment in a single geographical oil or gas field operated by a single operator.

B.I SINGLE-TANK FACILITIES

B.1.1 For facilities containing only one aboveground oil storage tank, the worst case discharge planning volume equals the capacity of the aboveground oil storage tank plus the production volume of the well with the highest output at the facility. If adequate secondary containment (sufficiently large to contain the capacity of the aboveground oil storage tank plus sufficient freeboard to allow for precipitation) exists for the storage tank, multiply the capacity of the tank by 0.8.

B.1.2 For facilities with production wells producing by pumping, if the rate of the well with the highest output is known and the number of days the facility is unattended can be predicted, then the production volume is equal to the pumping rate of the well multiplied by the greatest number of days the facility is unattended.

B.1.3 If the pumping rate of the well with the highest output is estimated or the maximum number of days the facility is unattended is estimated, then the production volume is determined from the pumping rate of the well multiplied by 1.5 times the greatest number of days that the facility has been or is expected to be unattended.

B.1.4 Attachment D-1 to this appendix provides methods for calculating the production volume for exploratory wells and production wells producing under pressure.

(1) FINAL WORST CASE VOLUME: GAL
(2) Do not proceed further.

B.2 SECONDARY CONTAINMENT—MULTIPLE-TANK FACILITIES

Are all aboveground oil storage tanks or groups of aboveground oil storage tanks at the facility without adequate secondary containment?

____ (Y/N)

B.2.1 If the answer is yes, the final worst case volume equals the total aboveground oil storage capacity without adequate secondary containment plus the production volume of the well with the highest output at the facility.

(1) For facilities with production wells producing by pumping, if the rate of the well with the highest output is known and the number of days the facility is unattended can be predicted, then the production volume is equal to the pumping rate of the well multiplied by the greatest number of days the facility is unattended.

³All complexes that are jointly regulated by EPA and the USCG must also calculate the worst case discharge planning volume for the transportation-related portions of the facility and plan for whichever volume is greater.